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AN
APPENDIX
TO THE
FIRST EDITION
OF THE
MORBID ANATOMY
OF
SOME OF THE MOST IMPORTANT PARTS
OF THE
HUMAN BODY.

BY
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ADVERTISEMENT.

THE Author thought it an act of justice, due to those who had purchased copies of the first Edition of the Morbid Anatomy, to publish an Appendix to it. This not only comprehends what is new in the second Edition, but also whatever has undergone any considerable alteration since the publication of the first, in consequence either of better opportunities of observation, or of more reflection.—The smaller alterations, it is obvious, could not be introduced into the Appendix. These, however, are not very numerous, and relate more to the language than to the sentiment. There will appear to be a great want of connection between many of the parts which compose the Appendix. This,

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however, was unavoidable, and will be attended with less disadvantage in the present Work than almost any other, on account of the nature of the subject upon which it treats.

P R E F A C E
TO THE SECOND EDITION.

A SECOND Edition of this little work is now offered to the Public. It is considerably enlarged, and I hope more correct than the former. The additions are principally derived from what I have remarked myself ; but they are also taken from the observations of others, and more especially from those of Dr. Soemmerring, Professor of Medicine in the University of Mayence, one of the most distinguished anatomists in Germany. He was pleased to think so favourably of my attempt to improve the knowledge of diseased appearances in the human body, as to translate the first Edition of the Morbid Anatomy into the Ger-

man language, and to add to it many new Cases, and copious Notes. It has given me the most sincere satisfaction, to find that our observations and opinions coincide so much with those of each other. Had the plan of my work been different, I might have derived much more assistance from the valuable labours of Professor Soemmerring, but many of the additions which he has made do not strictly fall within it.

To the Morbid Appearances, I have attempted to subjoin the Symptoms connected with them. This part of the undertaking is attended with many difficulties, and I feel very sensibly, how much the execution of it stands in need of the kind indulgence of the Public. If this work shall ever come to another Edition, I hope to be able to render the account of Symptoms less imperfect.

The difficulties which attend an attempt to ascertain the symptoms of diseases, are derived from various sources. The same symptoms are not uniformly connected with the same morbid changes of structure in the body.—In many cases too, the symptoms are nearly the same, where the morbid changes of structure are very different. This is particularly exemplified in diseases of the brain, and of the heart.—Patients often explain very imperfectly their feelings, partly from the natural deficiency of language, and partly from being misled by preconceived opinions about the nature of their complaints.—Medical men also, in examining into the symptoms of diseases, sometimes put their questions inaccurately, and not unfrequently mislead patients into a false description, from some opinion about the disease which they have too hastily adopted. All of these are formidable diffi-

culties, which obstruct the progress of our knowledge of the symptoms of diseases; but the accumulated observations of many individuals will probably, at length, in a great measure overcome them.

In describing the symptoms of diseases, I have not entered into a minute detail. This belongs properly to the plan of a writer, who proposes to take a full view of any particular disease. I have mentioned those symptoms only which are most constant, and most strongly characteristic of the diseases to which they belong. Many diseased appearances are described in this work, to which there are added no corresponding symptoms; and this depends upon different causes. The first is, that there are many morbid changes of structure in the body, the corresponding symptoms of which are not ascertained. The second is, that many morbid changes of structure are produced

by causes which disturb the constitution so little, as to be attended with symptoms too slightly marked for observation. The third and last is, that the symptoms belonging to some diseased appearances, fall so immediately under the cognizance of the eye, or of the touch, as to be included in a description of the diseased appearances themselves, and to render any further account of them superfluous.

The account of Symptoms is placed at the end of each chapter, after the description of the diseased appearances, that the anatomical part of the work may not be interrupted. In a very few instances, however, the account of the symptoms has not been separated from the anatomical description of the morbid appearances, where so little of the symptoms was known as hardly to admit of a distinct account being given of them.

Besides an account of morbid appearances, a few cases of mal-formation are blended in this work. They do not strictly fall within its plan; I have, therefore, added only a few, which are important, and which have almost all occurred to my own observation.

London,

Nov. 20, 1797.

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APPENDIX.

CHAP. I.

DISEASED APPEARANCES OF THE PERICARDIUM.

The Pericardium wanting.

A FEW instances have occurred, in which the pericardium has been wanting, from a defect in the original formation. When this deficiency takes place, the heart appears perfectly bare and distinct to the eye, upon removing the sternum and the cartilaginous extremities of the ribs. The external surface of the different cavities and blood vessels of the heart is seen as distinctly as when the pericardium is laid open in the natural structure of these parts. A close and uniform adhesion of the pericardium to the heart has sometimes been mistaken for this malformation, but they

are very different from each other. When there is a close adhesion of the pericardium to the heart, the external surface of the different cavities and blood vessels of this organ does not come into view, upon removing the sternum and a part of the ribs. The whole of this appearance is as completely hid as in the healthy structure. It is only when the adhesion is removed by dissection that the external surface of the heart and its blood vessels comes into view. When there is an adhesion of the pericardium to the heart, this membrane adheres at the same time closely to the tendinous part of the diaphragm; but when there is an original want of the pericardium, the heart lies loose in the cavity of the chest, having no connection whatever with the diaphragm, and is covered by the pleura, like the lungs. I have had an opportunity of seeing once an example of a want of the pericardium, and have described it in the Medical and Chirurgical Transactions.*

* See page 91.

SYMPTOMS

CONNECTED WITH THE DISEASED

APPEARANCES.

The symptoms attending inflammation of the pericardium, cannot be distinguished in practice from inflammation of the substance of the heart. Whenever the inflammation of the pericardium is violent, the muscular substance of the heart is inflamed to some depth, and therefore the inflammations of both parts are often blended together. The symptoms which have been observed, are the general affection of the system known by the name of Fever ; pain in the region of the heart, which is often, but not always attended with palpitations, and with an irregular pulse ; cough ; difficulty of breathing ; and sometimes syncope.

The symptoms attending adhesions of the pericardium to the heart are not so clearly marked as to be well distinguished

in practice. When the adhesions are partial and long, so that the heart can enjoy a free play within the pericardium, probably little or no inconvenience is felt. But when the adhesions are close, and extend generally over the surface of the heart, the following symptoms have been observed, viz. a sense of oppression, and sometimes of pain, in the situation of the heart; a pulse which is often irregular and intermittent; difficulty of breathing, and sometimes a dry cough.

When water is accumulated in the pericardium, the symptoms are found to resemble very much those belonging to hydrothorax, and have not been clearly distinguished from them by authors. These symptoms will be afterwards mentioned when we come to hydrothorax. It may perhaps serve as some imperfect ground of distinction between the two diseases, that the feeling of oppression is more accurately

confined to the situation of the heart, and the heart is more disturbed in its functions, in dropsy of the pericardium, than in hydrothorax. It ought at the same time to be remarked, that the two diseases are often blended together, and where, of course, these grounds of distinction cannot be applied.

The case of scrofulous tumours growing upon the inside of the pericardium, which we have described, was combined with tubercles of the lungs; and the person died with the common symptoms of pulmonary consumption. Nothing occurred which led to any suspicion of a disease in the pericardium. It seems to me reasonable to suppose, that when scrofulous tumours grow in the pericardium, there will hardly be any inconvenience felt while they are small. But when they enlarge very much in size, they will necessarily prevent the full dilatation of the heart, and disturb its functions. This, however, will probably be very diffi-

cult to be distinguished from the disturbance produced by other causes, which must in the same manner impede the free action of the heart ; as, for instance, the accumulation of water in the pericardium.

The symptoms produced by a want of secretion in the pericardium are at present unknown.

CHAP. II.

DISEASED APPEARANCES OF THE HEART.

Malformation of the Heart.

A VERY singular malformation of the heart, in a child about two months old came some time ago into my possession, an account of which I shall add to the others already described. The aorta in this heart arose out of the right ventricle, and the pulmonary artery out of the left. There was no communication between the one vessel and the other, except through the small remains of the ductus arteriosus, which was just large enough to admit a crow quill. The foramen ovale was a little more closed than in a child newly born. The heart was of the common size for a child of two months old, and except for the circumstances which have been stated, had nothing remarkable in its structure. In this child a florid blood must have been always circulating between the lungs and the left side of the heart, except

for the admixture of the dark blood which passed through the small communication of the foramen ovale; and a dark blood must have been always circulating between the right side of the heart and the general mass of the body, except for the very small quantity of florid blood which passed into the aorta by the remains of the ductus arteriosus. Life must, therefore, have been supported for a very considerable length of time with hardly any florid blood distributed over the body. I regret extremely that I have only been able to collect a very imperfect account of the child when alive. The child had a most unusually livid skin, which arose from the very small proportion of the florid blood in the general circulation. The surface of the child's body felt colder than of a child properly formed and in good health; the respiration was natural. When any similar malformation shall occur, it could be wished that the heat of the surface of the body, and of the internal parts, were measured accurately by

a thermometer. The heat of the internal parts, will be most conveniently measured by putting a small thermometer into the rectum.*

SYMPTOMS

CONNECTED WITH THE DISEASED
APPEARANCES.

The symptoms which attend inflammation of the heart are very much the same with those which belong to inflammation of the pericardium, viz. the general affection of the system called fever ; pain in the situation of the heart ; palpitations ; an irregular pulse ; cough ; difficulty of breathing ; and often syncope. It would seem probable that the last symptom is principally connected with inflammation of the

* This very singular malformation of the heart was given to me by Dr. Wollaston, of St. Edmundsbury, who took much trouble in endeavouring to collect information about the child, but without the desired success.

substance of the heart, and perhaps it may not be found in a pure inflammation of the pericardium. The two diseases, however, are very commonly blended together.

The symptoms which attend aneurysm of the heart, are the same which belong to aneurysm of the arch of the aorta.

The chief symptom which attends aneurysm of the arch of the aorta, in an early stage of the disease, is a strong pulsation to be felt in the chest. The pulsation is commonly at the same time visible to the eye, when the chest is exposed to view. We are not to conclude, however, from this symptom only, that there is certainly an aneurysm. I have felt the same kind of pulsation in other cases ; as for instance, where the pericardium was found strongly to adhere to the heart ; where there was a slight inflammation upon the surface of the heart,

with a little more water than usual in the pericardium ; and where a morbid enlargement had taken place in the heart without any aneurysmal swelling. But when an aneurysm of the arch of the aorta has advanced to a large size, a tumour begins to be formed externally, accompanied with a strong pulsation. This I believe belongs only to aneurysm, and becomes the most decided characteristic of this disease. The pulse at the wrist in aneurysm of the arch of the aorta is sometimes irregular ; but often no irregularity can be felt in it. Difficulty of breathing upon taking exercise commonly attends this disease, and it is increased in proportion as the disease advances.

The symptoms which are produced by a diseased alteration in the structure of the valves of the heart, are not so distinct as to be clearly discriminated in practice. They consist of difficulty of breathing ; of occa-

sional palpitations ; of a weak and often an irregular pulse ; and in some cases there has been observed a disposition to fainting. The assemblage of symptoms, which is called angina pectoris, has sometimes been found to attend ossification of the valves. No observations have yet been made by which practitioners may be led to conjecture what set of valves is diseased.

The symptoms which have been noticed as attending a gradual effusion of blood into the pericardium, are a great degree of faintness ; difficulty of breathing ; much anxiety and oppression ; a dull pain, and a sense of weight behind the sternum. To these a cold clammy sweat has been observed to succeed, and to spread over the body.

When the heart is much enlarged, it is attended with palpitations. These may not only be felt by the hand, when applied to

the left side, but may often be perceived by the eye, even when the chest is covered with the ordinary clothing. In one or two instances, I have known the pulse at the wrist to beat with an unusual degree of vigour, but much more commonly the pulse is feeble and irregular. The muscular parietes of the heart being generally thin in proportion to the enlarged size of its cavities, the heart has little power to propel an increased quantity of blood into the more distant branches of the arterial system. At times there is much difficulty of breathing; and there is a purplish hue of the cheeks and lips. This colour is more deep in its tinge at one time than another, according as the blood has been transmitted with more or less difficulty through the lungs. The causes which produce a morbid growth of the heart are but little known; one of them would seem to be rheumatism attacking this organ.*

* Dr. Pitcairn has observed this in several cases.

The symptoms produced by the formation of hydatids, in the cavity of the pericardium are not distinctly known; but they cannot be supposed to differ much from those of water in the pericardium. In a case related by Morgagni, the person was subject to fainting.

When a part of the heart is converted into an earthy matter or bone, no morbid symptoms whatever have, in some cases, been observed; and in others there has been palpitation of the heart, with difficulty of breathing.

CHAP. III.

DISEASED APPEARANCES IN THE CAVITY OF
THE THORAX.*The Pleura almost dry.*

IN opening into the cavity of the chest, there is commonly found a good deal of moisture upon the surface of the pleura. This is intended to lubricate the surface of the cavity of the chest, for the more easy motion of the lungs within it. Sometimes, however, I have seen the moisture in very small quantity, so that the pleura might almost be said to be dry. This was probably occasioned by a deficiency in the action of the exhalant arteries of the pleura.

SYMPTOMS

CONNECTED WITH THE DISEASED
APPEARANCES.

The symptoms which attend inflammation of the pleura are very well ascertained. There is more or less of that general affection of the system called fever ; an acute pain in some part of the chest, more commonly in the side, which is increased upon inspiration ; a great difficulty in lying upon the diseased side ; difficult respiration ; a cough, which at first is sometimes dry, but is afterwards accompanied with a secretion from the inner membrane of the trachea and its branches.

There would often seem to be slight degrees of inflammation in the pleura, where the symptoms above stated have not existed at all, or have been so obscurely marked as to be overlooked. In examining the chest of adults after death, it rarely happens that adhesions are not discovered in some part of it, uniting the surface of the

lungs to the pleura which lines the parietes of the chest. The marked symptoms of pleurisy, however, are by no means so frequent. It seems, therefore, probable, that slight inflammations may attack the pleura, sufficient however to throw out coagulable lymph, which is afterwards changed into adhesions, and yet persons shall be little sensible of any disease in the chest. If this supposition be not granted, then coagulable lymph may be thrown out upon the surface of the pleura, and adhesions be formed without inflammation. This conjecture I do not consider to be so probable as the other.

Where adhesions in the chest are long, so as not to impede the free motion of the lungs, respiration is not sensibly affected by them. But where the adhesions are short, tying as it were the lungs closely to the parietes of the chest, and more especially if they be extended over every part of the

cavity, then respiration is difficult, and accompanied with a cough, but there are no symptoms of fever.

Empyema may be distinguished with a good deal of certainty, after inflammation of the pleura or of the lungs, by rigors having taken place, by a remission of the pain, by the cough and difficulty of breathing continuing, and by the person being able to lie more easily upon the diseased side than the other. There is sometimes a very evident enlargement of the side where the matter is accumulated.

When water is accumulated in the chest, it can generally be sufficiently distinguished in practice by the following symptoms.

There is great difficulty of breathing, and the patient cannot rest in bed, unless the head and the upper part of the trunk be more or less elevated from the horizon-

tal posture. The sleep is often suddenly interrupted by alarms and disagreeable dreams; the urine is in very small quantity, and there is commonly anasarca of the legs. The pulse is generally irregular; but this is not always the case. There is a paleness in the countenance, with a purple hue of the lips and of the cheeks, if the latter should happen to have any tinge remaining. This change of colour is produced by the veinal blood not passing readily through the lungs, which are prevented from expanding themselves sufficiently for this purpose, by the accumulation of the water.

When ossification of the pleura is of small extent, respiration cannot be affected by it; but when it is large it must produce difficulty of breathing, either by preventing the full expansion of the lungs, or the free motion of the ribs, according to its situation. Some instances are known of respiration being injured from this cause.

CHAP. IV.

DISEASED APPEARANCES OF THE LUNGS.

Water accumulated in the Substance of the Lungs.

THE structure of the lungs may be said to consist of air cells, and the common cellular membrane of the body. In this cellular membrane there is always some moisture, which is necessary for the easy motion of one part of the lungs upon another in their contraction and dilatation. There is a considerable difference in the quantity of this moisture in different persons, as may be seen by cutting into the substance of the lungs; for under such circumstances there will always ooze out from the cut surface more or less of an aqueous fluid mixed with globules of air. Sometimes, however, the quantity is so large that it amounts to a

disease, forming what may be called anasarca of the lungs. It has not occurred to me to see any well marked example of this disease, but it has been observed by others.* It is hardly necessary to mention, that in proportion to the accumulation of the water the air cells must be necessarily compressed, so that a sufficient quantity of air cannot be admitted into the lungs for producing the due degree of influence upon the blood.

Air Vesicles attached to the Edge of the Lungs.

Vesicles containing air have occasionally been seen attached to the edge of the lungs. They do not communicate, however, with the structure of this organ, but are complete in themselves. Upon the first view, it might be thought probable that they were merely some of the air cells enlarged; but as they do not communicate with any of the

* See Dr. Soemmerring's German translation of the Morbid Anatomy, p. 45.

air cells, this opinion would not seem to be well founded. It is most likely that they are a morbid structure, formed in the same manner as the air vesicles attached to the intestines and mesentery of some quadrupeds, and that the very minute blood vessels which ramify upon the vesicles, have the power of secreting the air.*

SYMPTOMS

CONNECTED WITH THE DISEASED
APPEARANCES.

In inflammation of the substance of the lungs, the symptoms correspond a good deal with those of pleurisy. Indeed inflammation of the lungs is almost constantly attended with inflammation of the pleura, so that it is difficult to discriminate between them in practice. But it is of little consequence to be able to do this, as the means of cure are the same in both diseases. When

* See Hunter's Animal Economy, p. 165.

the inflammation of the lungs is pure, the pleura being not affected, the pain in the chest has been observed to be more obtuse than in pleurisy, and the pulse to be less hard. The respiration is very difficult, and the veins of the neck are sometimes observed to be distended with blood, the face to be tumid, and there is a purplish hue of the lips and cheeks. These effects arise from the veinal blood being transmitted with difficulty through the inflamed lungs. This is occasioned by an extravasation of the coagulable lymph into a considerable part of their substance, which both prevents the lungs from sufficiently expanding themselves, and compresses many air cells, so that the proper quantity of air is not admitted into the lungs for producing the full change of colour upon the blood.

When inflammation of the lungs terminates in suppuration, it may be known by rigors, by a diminution of the pain in the chest, and by an expectoration of pus.

When tubercles are forming in the lungs, but have not advanced to suppuration, they are, I believe, attended with a slight cough, with occasional difficulty of breathing, and a pulse somewhat accelerated. These are the symptoms which commonly usher in pthisis pulmonalis, and are frequently overlooked, both by the patients themselves and their friends. When the tubercles have begun to suppurate, and abscesses to be formed, then there is an expectoration of a thick pus, which is occasionally tinged with blood, emaciation, debility, and that peculiar affection of the system which is known by the name of hectic fever.

The symptoms attending the large brown tubercle are unknown to me.

When the cells of the lungs are much enlarged in their size, persons have been remarked to be long subject to difficulty of

breathing ; but I believe no symptom is at present known, by which this disease may be discriminated from some others incident to the chest.

In some cases in which the lungs have been converted into a substance like the liver, symptoms have been observed similar to those which attend inflammation of the lungs. I am inclined to believe that this appearance of the lungs is produced by a large extravasation of coagulable lymph into their substance, during an attack of inflammation.

When earthy concretions are formed in the lungs, persons are more or less subject to difficulty of breathing, and a cough. Occasionally some of these concretions are coughed up, which circumstance becomes the discriminating mark of this disease. Without it, this disease could not be dis-

tinguished from several others which attack the chest.

When hydatids are formed in the lungs they produce a cough, difficulty of breathing, and some frequency of the pulse. They are occasionally forced up by a violent fit of coughing; and this circumstance only can discriminate the disease in the living body.

CHAP. V.

DISEASED APPEARANCES OF THE THYROID GLAND, THE LARYNX, AND THE PARTS CONTAINED IN THE POSTERIOR MEDIAS-TINUM.

BEFORE we describe the diseased appearances of the parts which are contained in the posterior mediastinum, we shall take notice of the morbid changes to which the thyroid gland and the larynx are liable. These are so closely connected with the trachea, that a description of their morbid changes could not be introduced so properly in any other place.

Inflammation of the Thyroid Gland.

The thyroid gland is sometimes attacked with common inflammation, but this happens rarely. There are no peculiar causes acting upon it to produce inflammation, and it would seem to be as little liable to be excited to this diseased action as

any gland in the body. When the thyroid gland is inflamed, it exhibits the common appearances which take place in the inflammation of the substance of other parts. Its blood vessels are enlarged in their size, and the number of branches which are capable of containing the red globules of blood is increased. Hence it appears much more vascular than in a natural state. It is increased in its bulk, and feels considerably firmer to the touch than when healthy ; and these effects are produced partly by the increased quantity of blood, which is circulating through it, and partly by the extravasation of coagulable lymph, and perhaps of blood, into its substance.

Bronchocele.

The morbid change of structure to which the thyroid gland is most liable, is that swelling of it called bronchocele. This is apt to take place in different individuals of the same family, and women are more liable to be affected with it than men. It is more

prevalent in some districts of countries than in others, and those where it is most prevalent are mountainous.

The swelling of the thyroid gland in bronchocele often increases to a very large size, and sometimes grows irregularly, forming projecting tumours upon the anterior part of the neck. This irregularity of growth is more common in that part of Savoy, where the disease is endemial, than in Great Britain.

When a section is made of the thyroid gland affected with this disease, it is found to consist of a number of cells which contain a transparent viscid fluid. These cells vary in their size in different parts of the same gland, and in different swellings of the same kind in different individuals. Some of them are so large as to be able to contain a small pea, but most of them are of a smaller size. The viscid fluid, when the gland has been preserved for some time in spirits, is changed into a transparent jelly. From this account of the morbid change of structure

which takes place in bronchocele, it seems not unreasonable to suppose that the swelling depends upon a vitiated and increased secretion in the gland. The secretion being in large quantity, gradually distends the cells, increasing thereby their capacity, and this enlargement of the cells forms the general swelling of the gland. What is now said, however, is thrown out merely as a conjecture, and should be received with great caution.

Schirrus of the Thyroid Gland.

The thyroid gland sometimes becomes schirrous, but is not so liable to this disease as some other glands of the body. When it is affected by this disease, it becomes enlarged in its size, but not to any considerable degree, and is hard to the feeling. When a section is made of it, it is found to consist of a solid, brownish-white substance, with very little of that cellular structure which is so strongly marked in bronchocele.

This gland is apt to become swelled and hard when ulcers are formed at the upper end of the œsophagus. This effect is sometimes produced by the ulcer of the œsophagus spreading to the thyroid gland. The same change, however, has been observed to take place where the ulcer had not reached so far, and where the gland was entire. This might lead to the opinion, that some ducts of communication exist between the thyroid gland and the upper part of the œsophagus. These ducts have been supposed by several anatomists, but their existence has never yet been demonstrated.

The Thyroid Gland converted into Bone.

The thyroid gland, or a part of it, is occasionally changed in old people into a bony mass, the minute blood vessels of the gland having acquired the power of secreting and depositing bony matter. This deranged action however happens seldom, and this disease is therefore of rare occurrence. It is commonly, I believe, a disease of no conse-

quence: but it may be easily imagined that the bony mass by some irregular growth may so irritate the larynx, or the upper part of the trachea, as to produce inflammation and ulceration of these parts, and to prove ultimately fatal.

*Larynx.—The Cartilages of the Larynx
converted into Bone.*

The cartilages of the larynx sometimes become bony, either at the middle or a more advanced period of life. When the disposition to form bony matter in the larynx is not very strong, portions of the thyroid cartilage only are converted into bone; but when the disposition is powerful, then all the cartilages are changed into a bony substance. When this is the case, they become liable to any changes which might take place in ordinary bone. Accordingly, some of these cartilages so changed into bone have been known to exfoliate, and to be thrown out by a violent fit of coughing or vomiting. Dr. Hunter had an opportu-

nity of knowing an instance where the cricoid cartilage, being converted into bone, was separated by exfoliation, and afterwards coughed up. It is not to be understood from what has been said, that the cartilages of the larynx, when changed into bone, are more liable to become dead and exfoliate than the common bones of the body. The instances in which they have been known to exfoliate, are I believe extremely rare.

Ulcers in the Cavity of the Larynx.

The inner membrane of the larynx is very apt to be inflamed, and this generally accompanies the inflammation of the inner membrane of the trachea, as we shall have occasion to mention afterwards. Sometimes, however, an inflammation shall take place which is confined to the cavity of the larynx, and it shall occasionally advance to suppuration. Of this I have known several instances, Suppuration is most apt to take place in the sacculi laryngis; and the ulcers which I have seen there, are some-

times attended with a scrofulous thickening of the surrounding parts.

Scrofulous Swelling in the Pharynx.

It has occurred to me likewise to see a scrofulous swelling at the lower end of the pharynx and the beginning of the œsophagus. When cut into it appeared to consist of the same kind of matter as a scrofulous absorbent gland. It grew upon that side of the pharynx which is next the larynx, and the patient for this reason had not only lost almost entirely the power of swallowing, but was not able to speak except in the smallest whisper.

Diseased Appearances of the Thymus Gland.

The thymus gland is subject to few diseases in itself, and is only of temporary existence; few instances therefore of morbid structure have been observed in it.

It would seem to be very little disposed to common inflammation, and therefore ab-

scesses have occurred in it very rarely, and have been but little noticed by authors.

It is more liable to be enlarged in its size, and to become hardened in its structure. It once occurred to myself to observe an instance of this sort, but I had not an opportunity of examining it very minutely.

Small calculi have been said to be occasionally formed in the thynius gland.*

SYMPTOMS

CONNECTED WITH THE DISEASED

APPEARANCES.

Inflammation of the thyroid gland may be known by an increase of its size and firmness, by a pain felt in it, which is increased upon pressure, and which is probably also increased during the act of swal-

* See Dr. Soemmerring's German translation, p. 61.

lowing. It may be distinguished from some other swellings of this gland, as for instance from bronchocele, by its rapid progress, by the feeling of pain, and by its not increasing to a very large size.

It is worth while to remark, that practitioners ought to be particularly cautious to prevent inflammation of the thyroid gland from advancing to suppuration. If it should suppurate, and the pus be evacuated externally, there will be a scar in the neck; and if it should point internally, it will probably make its way into the cavity of the larynx or the trachea, and suffocate the patient. There is a preparation in Dr. Hunter's collection, shewing this fatal termination of inflammation in the thyroid gland. Every means should be attempted to make the inflammation terminate in resolution. When inflammation of the substance of any part terminates in resolution, the blood vessels gradually return to their natural mode of action, and their natural size: the deep seated absorbents are at the same time ex-

cited to an increased exertion, so as to remove the blood and the coagulable lymph which had been extravasated during the inflammation. This is one of the chief uses of the absorbent vessels which are distributed through the substance of parts.*

Bronchocele may be distinguished from

* In the reduction of some of the deeper seated parts of the body from a state of enlargement to their natural size, there is a strong proof of a consent or sympathy existing between the superficial and deeper seated absorbent vessels. When, for instance, a swelled testicle is reduced to its natural size by rubbing mercurial ointment upon the surface of the scrotum which covers it, it cannot be supposed that any part of the ointment comes in contact with the absorbent vessels belonging to the substance of the testicle ; yet these absorbents are excited to an increased action by the application of the ointment, and the testicle is at length reduced to its natural size. This effect would seem only capable of being explained upon the principle of a consent or sympathy existing between the absorbents of the scrotum and the absorbents of the substance of the testicle, by which, when the former are stimulated, the latter are roused to an increased action.

other swellings of the thyroid gland, by its slow growth, by the size at which it is capable of arriving, by its want of pain, by its commonly occurring at an early period of life, by the sensation it yields to the touch, which is that of more or less firmness, but not of great hardness, and by the health being unaffected by it.

Schirrus of the thyroid gland may be distinguished from other swellings of it, by its great hardness, by occasional darting pains in the gland, and by this affection being most apt to occur in persons of an advanced age. The swelling likewise in schirrus of the thyroid gland is seldom so large as in bronchocele.

Ossification in the thyroid gland can only be ascertained by an accurate examination of the part affected. If the ossification be upon the surface of the gland, the bony

matter will be distinctly felt under the skin ; but if it should be deeply seated, it will be felt more obscurely, so as to leave the nature of the disease in some doubt. When, however, it has made further progress, it will become perfectly distinct.

When the cartilages of the larynx are converted into bone, the voice has been remarked to become hoarse, or sometimes to be changed into a whisper. This may be easily explained, by the cartilages of the larynx having lost their flexibility, and therefore being rendered incapable of these finer motions, which it is reasonable to imagine must have considerable influence upon the voice. In the cases which I have had an opportunity of examining, the ligaments which join the cartilages together were natural in their structure ; had they been changed into bone, all the motions of the larynx would have been lost. It would

then have been useless as the chief instrument of voice ; but what would be the exact effect of such a change upon sound generally, it is extremely difficult to determine. In some instances where the cartilages of the larynx have been converted into bone, there has occurred a total inability of swallowing, which destroyed the patients. Upon examination after death, no disease was observable either in the pharynx or the œsophagus. How this should happen it is very difficult to explain, but it has been observed by Dr. Robertson, the Physician of Greenwich Hospital.

When ulcers have taken place in the cavity of the larynx, there is a fixed pain in the situation of this organ, difficulty of breathing, and the patient can only speak in a whisper. There is also symptomatic fever.

The symptoms which attend catarrh are too generally known to require being mentioned. When there is a sense of soreness in this disease, passing down the middle of the chest, it arises from a considerable inflammation of the inner membrane of the trachea. This inflammation soon goes off, but the increased secretion from the glands of the trachea often remains for a good while afterwards.

The inflammation of the inner membrane of the trachea, which is sometimes to be found in consumptive patients, continues I believe for a much longer time than in catarrh, and may be said to be chronic.

The symptoms of the croup are, the general affection of the system called fever, difficulty of breathing, a wheezing noise in inspiration, a hoarse voice, and a sort of ringing sound during coughing: portions of a whitish membrane and pus are at the

same time occasionally coughed up. It may perhaps be not unreasonable to suppose that the whitish membrane is formed by some peculiar action of the blood vessels of the inner surface of the larynx and the trachea, which is superadded to the inflammation. In common inflammation of the inner surface of the larynx and trachea, there is merely an increased secretion of mucus, or sometimes of pus ; but in the croup an adventitious membrane is always formed. This gives some probability to the supposition which we have made ; and it may perhaps serve to explain why the croup is so rarely cured by the means which are known to remove common inflammation.

The symptoms which attend a polypus of the trachea are, difficulty of breathing, a dry cough, and a frequent pulse, but without any signs of inflammation. These however would not enable physicians to discriminate this disease from several others,

if portions of the polypus were not frequently coughed up. The disease is apt to continue for a great length of time.

The symptoms attending spasmodic stricture of the œsophagus characterize sufficiently the nature of the disease. The difficulty of swallowing is not constant, but occasional. It comes on and goes off suddenly, and these changes are frequent. There is no emaciation of the body, and the person generally seems to be in good health.

The stricture of the œsophagus which depends upon the puckering of the inner membrane, is slow in its progress. It may continue for a great many years, and the person seems to be in good health, except for the difficulty of swallowing. The difficulty is constant, which will distinguish it

from a mere spasmodic contraction of the muscular fibres of the œsophagus.

The symptoms which belong to a stricture of the œsophagus depending on a schirrous thickening and ulcer, distinguish it sufficiently from the other two diseases. The difficulty of swallowing is small at first, and gradually becomes worse, but is constant. When the disease has made considerable progress, the food is often rejected, and along with it occasionally there passes up some pus. The pulse is more frequent than in health ; and towards the termination of the complaint the body becomes extremely emaciated. The parts in the neighbourhood of the disease are irritated to an increased secretion, which often produces a hawking. Although hardly any nourishment, towards the end of this disease, can be got into the stomach, yet the feeling of hunger is described as not being distressing.

When there is a fungus or a scrofulous tumour in the œsophagus, the symptoms correspond I believe very much with those of the schirrous stricture of the œsophagus just described.

CHAP. VI.

DISEASED APPEARANCES WITHIN THE
CAVITY OF THE ABDOMEN.*Steatomatous Tumours adhering to the Peritonæum.*

STEATOMATOUS tumours have been observed adhering to the peritonæum ; but these are of very rare occurrence.*

Air in the Cavity of the Abdomen.

Air has been occasionally said to be accumulated in the cavity of the abdomen, while little or none is contained in the intestines.† This I believe to be a very rare occurrence. Air is not unfrequently found accumulated in considerable quantity in the intestinal canal, while there is none at all

* See Soemmerring's Germ. transl. p. 70.

† Vid. Lieutaud, Tom. I. p. 432.

in the cavity of the abdomen. When a large quantity of air is accumulated in the bowels, they become greatly distended, and their coats proportionably thin. By the bowels lying in close contact with the peritonæum which lines the muscular parietes of the abdomen, there is the same feeling of distension when the hand is applied to the surface of the belly, and the same quick reaction upon removing the hand, as if the cavity of the belly itself had been filled with air. This has probably given rise to the opinion, that the air is often contained in the cavity of the belly. I can believe that air may on some occasions be accumulated in the cavity of the belly, but it is very uncommon. A part of the intestine when very much distended with air may burst, and a portion of the air may escape into the cavity of the belly; or the small arteries of the peritonæum may secrete air, in the same manner as it would seem to be formed by the inner membrane of the stomach and the intestines.

SYMPTOMS
CONNECTED WITH THE DISEASED
APPEARANCES.

The symptoms which belong to ascites are almost too well known to require being mentioned. There is a distinct feeling of fluctuation upon applying one hand to the belly, and striking it with the other ; the urine is in small quantity, and of a deep colour ; there is thirst, often some feeling of heat, and a pulse more frequent than in health. The breathing is likewise difficult when the water is accumulated in very large quantity.

The symptoms attending inflammation of the peritonæum are a pain in the abdomen, together with some swelling there, and a great soreness to the touch. The bowels are often costive, the pulse is frequent and hard, and there are the other symptoms of

the affection of the system called fever. When the inflammation is slight, I have known the pain to be very inconsiderable, and the pulse to be little increased in its frequency, so that inflammation of the peritonæum had not been suspected. Upon examination, however, of the body after death, no other diseased appearance than a slight inflammation of the peritonæum was discoverable.

There are no symptoms which mark the existence of adhesions in the abdomen ; and they seem to be attended with no inconvenience to the functions which are carried on in that cavity.

The symptoms which belong to scrofulous and schirrous tumours of the peritonæum are unknown to me.

When hydatids are accumulated in large quantity in the abdomen, it will require some attention to distinguish this disease from ascites. It may be distinguished however in the following manner: in the case of hydatids, the feeling of fluctuation upon striking the belly with the hand will either take place very indistinctly, or not at all; whereas in ascites attended with no peculiar symptoms, it is always distinct. In hydatids it will be found, upon inquiry into the history of the case, that the swelling first began in some determined place, whereas in ascites there is a gradual swelling of the whole belly.

It will be more difficult to distinguish an accumulation of hydatids from a dropsy of the ovarium than from ascites. The distinction between the two diseases would seem only capable of being determined by an accurate inquiry into the history of the case. In dropsy of the ovarium the swelling is first perceived on the side of the lower part of the belly, and gradually in-

creases upwards, so as to occupy a great part of the cavity of the abdomen. As hydatids most commonly grow from the liver, the swelling in this case will generally be first sensible at the upper part of the belly, and spread downwards. Hydatids, however, may be formed in any part of the abdomen, and therefore were they to begin to be formed at the side of the lower part of the belly, it seems hardly possible to distinguish the one disease from the other.

CHAP. VII.

DISEASED APPEARANCES OF THE STOMACH.

Appearances in Hydrophobia.

ON opening the bodies of persons who have died from hydrophobia, the inner membrane of the stomach is frequently found inflamed at the cardia, and its great end. The inner membrane of the pharynx and the œsophagus is also inflamed. The membrane is not thickened by the inflammation, but the inflammation spreads as in erysipelas, shewing in some places a distinct line of boundary. This inflammation is commonly I believe not very great.

Calculi in the Stomach.

Calculi with different appearances have been described as being occasionally found in the stomach. They have never come under my own observation, and are to be

reckoned very uncommon.* Most of these calculi have been found upon examination to be biliary, and had been conveyed from the duodenum into the stomach by an antiperistaltic motion of this part of the small intestines.

SYMPTOMS

CONNECTED WITH THE DISEASED APPEARANCES.

In inflammation of the stomach, the following symptoms are observed to take place; viz. pain in the epigastric region, which is increased when any thing has been swallowed, vomiting, often hickup, a pulse small, frequent, and hard, heat, thirst, and a feeling of great debility.

The symptoms which are produced by swallowing arsenic, are the same with those

* Vid. Lieutaud, Tom. I. p. 17.

which take place in a very violent inflammation of the stomach ; for arsenic acts upon that organ in no other way than by exciting in it a very high degree of inflammation.

Hydrophobia is sufficiently characterized by the horror which the patient expresses at the sight of any fluid that is offered to him, by the great difficulty experienced in swallowing, and by the strong alienation of mind which accompanies this dreadful disease.

I have reason to believe that ulcers of the stomach are often slow in their progress. They are attended with pain, or an uneasy feeling in the stomach, and what is swallowed is commonly rejected by vomiting. This state becomes gradually worse, and is very little relieved by medicine ; which may serve as some ground of dis-

inction between this complaint and a temporary deranged action of the stomach.

Cancer of the stomach is attended with a sense of pain in that organ, which varies a good deal in its degree in different individuals. What is swallowed is almost constantly rejected by vomiting, and there is frequently thrown up also a dark coloured fluid, which has sometimes been compared to coffee grounds. The patient commonly becomes emaciated, and the countenance sallow ; the pulse is frequent, and hectic symptoms are formed.

I am not acquainted with the symptoms which are produced by a partial thickening of the stomach unattended with ulceration.

The accumulation of air in the stomach, is accompanied with an unpleasant feeling of distension, and a swelling may be felt

externally in the epigastric region; wind passes up by the oesophagus, and there are occasional pains in the stomach, produced by a spasmodic contraction of some part of its muscular coat.

CHAP. VIII.

DISEASED APPEARANCES IN THE INTESTINES.

Tænia.

THE *Tænia* which is most commonly found in the human intestines, is of two kinds, viz the *tænia solium*, and the *tænia lata*.

Tænia Solium.

This *tænia* is frequently bred in the intestines of the inhabitants of Germany, and occasionally, but rarely, in those of the inhabitants of Great Britain. It consists of a great many distinct portions, which are connected together so as to put on a jointed appearance; these joints are commonly of a very white colour, but are occasionally brownish, which depends on a fluid of this colour that is found in their vessels. The worm is usually very long, extending often many yards, and seldom passes entire from

the bowels. This circumstance has prevented the extremities of the *tænia* from being often seen.

The head of this *tænia* is somewhat of a square form, with a narrowed projection forwards ; in the middle of this projecting part, there is a distinct circular aperture, around the edge of which grow curved sharp processes. Near the angles of the square edge of the head, are situated four round projecting apertures, at equal distances from each other ; this head is placed upon a narrow jointed portion of the worm, of considerable length, and which gradually spreads itself into the broader joints, of which the body of the worm is composed.

The body of the *tænia* consists of thin, flat, pretty long joints, on one edge of which there is a projection, with a very obvious aperture. In the same worm some of these joints appear considerably longer than others ; this probably depends on one joint being contracted, while another is relaxed.

The apertures which we have just mentioned, are generally placed on the alternate edges of the contiguous joints: but this is not uniformly the case; they are sometimes placed on the same edges of two, or even several contiguous joints. When these joints are examined attentively, there are frequently seen, in each of them, vessels filled with a brownish fluid, and disposed in an arborescent form. Around the edges of each joint, there is also a distinct serpentine canal.* The last joint of a *tænia* resembles very much a common joint rounded off at its extremity, but without any aperture.

Tænia Lata.

The *tænia lata* is bred very commonly in the intestines of the inhabitants of Switzerland, but very rarely in those of the

* This, as well as the vessels disposed in an arborescent form, is very distinctly seen injected in some preparations which have been made, and given to me by an ingenious young surgeon, Mr. Carlisle.

inhabitants of Great Britain. The joints of which it is composed are short and broad, and the aperture is not upon the edge of each joint, as in the solium, but in the middle of its flattened surface. I have not seen either the head or the posterior extremity of this tænia; but I presume that they differ little from those of the solium.

Other tæniæ have occasionally been found in the human intestines, but they occur very rarely, and have not fallen under my own observation. They would seem all to be formed upon one general plan.

Trichuris.

This worm has been occasionally found in the great intestines of man, and more especially the cœcum. It resembles a good deal the ascaris, but is considerably larger, and has a very long transparent tail. To the heads of some of them is attached a process or horn.

SYMPTOMS

CONNECTED WITH THE DISEASED

APPEARANCES.

Inflammation of the intestines is characterized by the following symptoms, viz. an acute pain in the abdomen, vomiting, obstinate costiveness, heat, thirst, a frequent, small and hard pulse. The pulse, however, is sometimes less affected than might have been supposed, from the violence of the inflammation.

Intus-susceptio is attended with no peculiar feeling, as far as I know, till inflammation begins to take place, and then the symptoms correspond exactly with those of inflammation of the intestines. The parts where the intus-susceptio has been formed, are glued together by the coagulable lymph which is extravasated during the inflammation, and cannot be reduced again to their

natural situation. This, therefore, is to be considered as a much more fatal disease, than simple inflammation of the intestines. Simple inflammation may be removed, and the patient perfectly recover, but intus-susceptio attended with violent inflammation must prove certainly fatal.

When there is a rupture without any strangulation of the intestine, the following symptoms take place, viz. a pale swelling at the part affected, a slight pain occasionally felt in the swelling itself, and spread somewhat over the region of the belly, the swelling pushed out by coughing, a disappearance of the swelling upon pressure, or upon the person continuing for a considerable length of time in a horizontal posture. When a rupture is large and of long standing, it will often be incapable of being reduced by pressure, even when there is no strangulation.

When strangulation takes place, the same

symptoms arise which belong to inflammation of the bowels, for the strangulation produces inflammation. These, as we have lately mentioned, are pain in the swelling, and diffused over the abdomen, sickness, vomiting, obstinate costiveness, heat, thirst, commonly a frequent, small, and a hard pulse: and towards the fatal conclusion of the disease there is hickup, with a foetid yellow matter thrown out by the mouth. The sickness I have heard described, as being infinitely more distressing than the ordinary sickness of a deranged stomach; the pulse is sometimes, in such a case, not increased in frequency beyond the standard of health; and yet the inflammation of the bowel has been discovered afterwards by the operation to be very great. This is an important practical observation, because it shews that the degree of inflammation is not to be judged of from the pulse, and teaches that the operation should not be delayed, after the proper efforts for reducing the rupture have failed, because the

pulse may happen to be little or not at all accelerated.

When the great intestine is attacked with schirrus, the disease has commonly made some progress before it is much attended to by the patient. There is little pain at first in the part affected, and the patient only observes that he is costive, or that the stools pass with some difficulty. When the disease has made a greater progress, a good deal of pain is felt in the part affected, more especially in passing a stool, and after the evacuation of the bowels the patient feels much relief. Upon examining the stools attentively, pus and blood will sometimes be observed; and this chiefly happens towards the end of the disease, when ulceration has taken place. The colour of the countenance, towards the end of this complaint, is commonly sallow, the patient is much debilitated, and the pulse accelerated; the constitution appears evidently to

be much affected by the disease, and all of these symptoms increase till the patient is cut off.

In dysentery, griping pains are felt in the abdomen, which often arise to a considerable degree of severity. The bowels are irritated to frequent evacuation, and throw off different kinds of matter, as mucus, pus, blood, membranous films, white lumps, and at intervals, hardened fæces. Tenesmus generally accompanies the evacuation of the bowels; and there is some degree of symptomatic fever connected with this complaint.

The symptoms attending piles, are swellings at the verge of the anus, or in the rectum immediately above it, pain felt at the anus during the passage of the fæces, frequently an evacuation of blood, and occasional feelings of irritation in the parts

affected. This disease is often preceded by other affections, such as giddiness of the head, difficulty of breathing, colicky pains, and pains in the loins.

The symptoms which attend the round worm of the intestines, are a swelled belly, emaciated extremities, an offensive breath, and a deranged appetite. The appetite is often greater than in health, but sometimes it is much less. The stools are slimy ; and the patient frequently picks his nose, and during sleep grinds his teeth.

Persons afflicted with the *tænia*, complain of a gnawing uneasy feeling in the region of the stomach, which is removed, or diminished by eating. Their appetite is commonly somewhat voracious, but occasionally it is less than natural. They have commonly an itching at the nose, often nausea, colicky pains, and sometimes

giddiness. Some have a cough, and others occasionally convulsions.

When ascarides are lodged in the rectum, there is an uneasy feeling there, and a violent itching at the anus. There is also a sense of heat in the parts, with occasional tenesmus and mucous stools. The mucus is sometimes mixed with blood, and along with it some living ascarides are often discharged.*

When air is accumulated in a moderate quantity in the bowels, it is known to exist by some fulness of the abdomen, and by the air shifting frequently its situation. This is sometimes attended with a kind of gurgling noise, and forms swellings in particular parts of the belly. A quantity of air is sometimes expelled by the mouth and the rectum. There is generally at the

* See Med. Trans. of the College, Vol. I. p. 46.

same time costiveness, and occasional colicky pains.

When air is accumulated in very large quantity, then it forms a very serious disease called tympanitis. Of this I have seen two or three instances. The belly is extremely swelled, with a very tense feeling, and there is a quick reaction of the parts after removing the pressure of the fingers from the belly, exactly similar to what takes place in a common ox's bladder, distended with air. This circumstance serves as one of the marks of distinction between tympanitis and ascites. There is often difficulty of breathing, which is produced by the accumulation of the air pushing up the diaphragm, and impeding its free motion. There are severe colicky pains, and quantities of air are frequently expelled both upwards and downwards with a loud noise. The bowels are costive, and there is a difficulty in making water, which is probably occasioned by the accumulation of air in the rectum.

The symptoms of an inflamed mesentery cannot be separated from those which belong to inflammation of the peritonæum generally ; and these symptoms have been already described.

The symptoms which attend the enlargement of the mesenteric glands from scrofula, correspond very much, in the most striking circumstances, with the symptoms which are produced by the common round worm of the intestines. In both diseases there is a tumid belly, and emaciated extremities. They are chiefly to be distinguished by worms not being discovered in the one disease, notwithstanding the use of strong purgatives, while they pass off from the bowels in the other. The startings, and the grinding of the teeth, may perhaps also form some ground of distinction between the two diseases : they occur very commonly in worms, but I believe rarely, if at all, in scrofulous glands of the mesen-

tery. Some discrimination, likewise, between the two diseases, may sometimes be derived from examining strictly into the nature of the constitution. If decided marks of scrofula shew themselves in an external part of the body, they will lead a practitioner more satisfactorily to the opinion, that the mesenteric glands are also affected with the same disease.

CHAP. IX.

DISEASED APPEARANCES OF THE LIVER.

Coats of the Liver converted into Cartilage.

A PART of the coats of the liver is sometimes changed into cartilage. Of this I have seen a few instances; but it occurs much more rarely in the liver than in the spleen. The cartilage is smooth and thin, and very soft in its texture.

Cysts in the Liver containing an earthy Matter.

Cysts are occasionally formed in the liver, containing an earthy matter. The cysts are composed of a kind of cartilaginous substance mixed with bone. The earthy substance contained in the cyst is soft, smooth, and of a brownish white colour. It is sometimes mixed with soft films, resembling a good deal in their appearance the coat of an hydatid.

Rupture of the Liver.

The liver is more liable to be ruptured by external violence than any other gland of the body ; this probably arises from two causes : the one is, that in thin persons the liver, more especially when large, lies near the surface of the body, and therefore may be readily affected by a strong external pressure. The other is, that the liver consists of a structure whose parts are easily separated from each other by pressure, and do not recover themselves after the pressure is taken off, as many other parts of the body would do under the same circumstances. Thus, if the thumb or the finger be pressed against the liver with a good deal of force, the liver gives way much in the same manner as a rotten pear would do, although not so readily. In this trial the effect does not depend upon the liver being softened by putrefaction, because it will take place in the liver of a person immediately after death. It depends upon the

peculiar structure of the liver, and therefore may take place in the liver of a person who is alive, as well as of one who is dead. If the same degree of pressure be applied to a muscle, or many glands of the body, they are not ruptured, but recover themselves after the pressure has been removed. When ruptures have taken place in the liver, they have happened from some strong pressure applied to the upper part of the abdomen ; as for instance, from the wheel of a carriage passing over that part of the body. Little pain has been felt from such an injury ; which is a proof among many others of the liver not possessing much sensibility ; and some of the persons to whom this accident has happened have continued to live after it for several days.

SYMPTOMS

CONNECTED WITH THE DISEASED

APPEARANCES.

When the coats of the liver are inflamed, the symptoms correspond a good deal with those of pleurisy, in which the inflammation has attacked the lower part of the pleura upon the right side. There is acute pain in the part affected, difficulty of breathing, cough, and symptomatic fever. It would be of little use to discriminate between these two diseases in practice, because the remedies to be employed in both are the same.

I am not acquainted with any symptoms which attend adhesions of the liver to the neighbouring parts.

When the substance of the liver is inflamed, there is an obtuse pain in the right

hypochondrium, and a pain is often felt at the top of the right shoulder. The patient can lie most easily on the side affected. There is more or less of symptomatic fever, sometimes a dry cough, sometimes hickup, sometimes vomiting, and occasionally a yellow colour of the skin and eyes. Inflammation of the substance of the liver sometimes takes place so very slowly, that it is hardly attended with any pain, and the constitution is not at all or very little affected with symptoms of fever. On such occasions an inflammation of the liver is not suspected till an abscess has actually been formed, and begins to make its progress outwards.

I know of no peculiar symptoms by which the liver can be ascertained, in the living body, to be studded with tubercles. When, however, there is pain or an uneasy feeling in the region of the liver, together with a jaundiced colour of the skin, which conti-

nues permanent, and water is at the same time accumulated in the cavity of the abdomen ; there hardly remains any doubt of the liver being tuberculated. When the parietes of the abdomen are thin, and water is accumulated in small quantity in that cavity, the tubercles at the lower edge of the liver can sometimes, upon an attentive examination, be distinctly felt by the fingers.

The symptoms which belong to the large white tubercle of the liver, I cannot distinguish from those of the common tubercle. I believe, however, that the large white tubercle is not so often attended with jaundice and ascites as the other.

The symptoms which belong to the other tubercles of the liver, are unknown to me. I am disposed to think that there are none which may be called discriminative.

When the liver is becoming hard in its substance, the exact state of it cannot be determined in the living body, unless the person be so thin that the liver can be distinctly felt upon examination. This, however, will frequently be very difficult, and on many occasions impossible ; because the liver, when hard, is commonly not increased in its size, and the parietes of the abdomen are of considerable thickness. If there be some sense of uneasiness or of weight in the region of the liver, along with a sallow countenance, this disease may be suspected. It has sometimes happened, however, that the liver has been discovered to be hard, upon an examination after death, when no symptoms had been observed during life, which had led to an opinion of this disease having taken place.

There are no symptoms which characterize, particularly, the formation of hydatids in the liver, and this disease can only

be guessed at in the living body. It appears from the history of some cases of this kind, that a pain is felt in the right hypochondrium ; but this may arise from many other causes.

When hydatids are confined within the substance of the liver, I do not see how it is possible that they should be ascertained ; but, when they are formed on the outer surface of the liver, near its lower edge, they may in some degree be ascertained by examination, more especially if the person be thin. When, however, the parietes of the abdomen are thick, and the hydatids, or their cysts are not distinct, but lie in contact with each other, making an irregular tumour, it will hardly be possible to form any accurate opinion by an examination. If the tumour be formed gradually, and the general health be little affected, it is probable that it consists of hydatids. An accurate attention to the feeling, which the tumour yields upon pressure, or upon striking it gently with the hand, may also assist

in forming a probable conjecture about its nature. Where the tumour consists of hydatids, it will generally feel to a certain degree soft ; and if the hydatids should be very large, there will probably be an obscure sense of fluctuation upon striking the tumour with one hand, while the other is applied to the opposite side of it. If, moreover, the tumour should occupy a great part of the cavity of the abdomen, and can be clearly traced from the liver, as the source of its growth, there can be little doubt of the existence of hydatids under these circumstances.

CHAP. X.

DISEASED APPEARANCES IN THE GALL-
BLADDER.*Ulcers in the Gall-bladder.*

IT is rare that inflammation of the gall-bladder advances to ulceration : the accumulation of gall-stones in it, as far as I have observed, rarely produces any effect of this kind.* Ulceration of the gall-bladder, however, occasionally takes place, and I believe almost always begins in the inner membrane. Of this I have known two cases. In the one case, several ulcers were found in the inner membrane of the gall-bladder, while the other coats were not affected ; and in the other there was one ulcer, which had destroyed a part of all the coats.

* Dr. Soemmerring, however, has seen a good many instances of ulcers in the inner surface of the gall-bladder, from the irritation of gall-stones.

The Gall-bladder wanting.

The gall-bladder has also been known to be wanting from a defect in the original formation.* It has never occurred to me, to see an example of this kind of monstrosity; but one can the more readily believe that it may sometimes happen, as the gall-bladder does not serve any necessary purpose in the body. There are many classes of animals which are naturally without a gall-bladder.

SYMPTOMS

CONNECTED WITH THE DISEASED APPEARANCES.

Inflammation of the coats of the gall-bladder is not known to be distinguished by any peculiar symptoms. They are probably much the same with the symptoms which attend inflammation of the membranous covering of the liver.

* See Soemmerring's Germ. transl. p. 150.

An obliteration either of the hepatic duct, or of the ductus communis choledochus, must produce a jaundice which is permanent, because it depends upon a cause not liable to change. This will be extremely difficult to distinguish, in practice, from jaundice produced by a hardened, or tuberculated state of the liver, for this cause of jaundice may likewise be said to be generally permanent. When the ductus cysticus only is obliterated, there will be no jaundice, and little inconvenience will probably be felt, unless the bile confined in the gall-bladder should at length irritate its coats. In this case inflammation may be excited, which may advance to suppuration. I have seen an ulcer of the gall-bladder, which appeared to be produced by this cause.

While gall-stones remain in the gall-

bladder, and no attempt is made towards their passing through the ductus cysticus, and ductus communis choledochus, very little inconvenience is commonly produced by them. It happens every day that gall-stones are found in the gall-bladder after death, where there was not the least suspicion of their existence during life. When they pass through the ducts, more especially if they be large in their size, a most excruciating pain is often felt about the pit of the stomach: patients in this case express a much stronger feeling of pain, than during a violent inflammation even in the most sensible parts of the body. They often cry out, and writhe or twist their body into various postures. When the pulse is felt during this exquisite pain, it is sometimes found to be accelerated in a trifling degree, but generally it is not more frequent than in health. There is languor, sickness, and vomiting; and the skin becomes more or less of a yellow colour.

CHAP. XI.

DISEASED APPEARANCES OF THE SPLEEN.

The Spleen ruptured.

THE spleen has been known sometimes to be ruptured, in consequence of external pressure upon that side of the body where it is situated. When the spleen is of the common size, an accident of this kind can very rarely take place, because it is well defended by the ribs of the left side; but when the spleen is very large, so that a part of it passes below the margin of the ribs into the cavity of the flank, such an accident may very readily happen.

Several small Spleens.

There is a variety in the natural formation of the spleen, which I believe does not take place in that of any other gland in the body. It consists in several small spleens

being formed besides the common one. They vary in their size in different instances; but I have seen some of them as large as a walnut! They are situated in the omentum, near the great end of the stomach, are supplied with blood vessels from the splenic artery and vein, and have exactly the same structure as a common spleen. We need hardly add, that it cannot make any difference, with regard to the use of the spleen, whether it be entirely formed of one mass, or whether it consists of several distinct parts.

Spleen said to be wanting.

The spleen has been said to be occasionally wanting, as a defect in the natural formation; but this too is very uncommon.* We know that an animal is capable not only of existing, but also of enjoying good health without a spleen. The spleen has been cut out, by way of experiment, from some quadrupeds, and they did not appear

* Vid. Lieutaud, Tom. I. p. 234.

to suffer any inconvenience afterwards from the want of it. The human spleen has even been removed in a few instances, and the persons have not only recovered, but have enjoyed afterwards good health. It does not appear, therefore, very wonderful that a body should be formed without a spleen, and carry on its vital functions without any obvious imperfection.

SYMPTOMS

CONNECTED WITH THE DISEASED

APPEARANCES.

When inflammation attacks the coats of the spleen, it is attended with the same symptoms as an inflammation of that portion of the peritonæum, which lies in the left hypochondrium. There is pain in that region, which is more or less according to the degree of the inflammation, and this pain is increased upon pressure. If the inflammation be violent, there is also some

affection of the system, and probably difficulty of breathing.

The symptoms which have been described as belonging to inflammation of the substance of the spleen, are a fulness and sense of pain in the left hypochondrium. The pain is increased upon pressure, and there is also that general affection of the system, called symptomatic fever. In two cases of inflamed spleen, examined by the late Dr. Hunter, where the inflammation had advanced to suppuration, the patients could not define accurately the seat of their pain, but the pain seemed to travel a good deal over the general cavity of the abdomen. It is worth while to ascertain whether this circumstance is usual in inflammation of the spleen; but as the disease occurs rarely, it will be some considerable time before we shall arrive satisfactorily at this knowledge.

An enlarged and hardened state of the spleen is not suspected or known, till the disease has made a considerable progress, so that the spleen is capable of being felt externally. It is commonly attended with no pain, and will even bear a pretty strong pressure, without any painful sensation. It may be distinguished when the spleen has arrived at a considerable size, by the situation and the general shape of the tumour. The anterior edge of the spleen can generally be felt distinctly, by the hand applied to the surface of the abdomen, under the margin of the ribs upon the left side ; and the edge is sometimes distinguished by this examination to be notched. This state of the spleen is often at length attended with dropsy.

There are no peculiar symptoms which characterize the formation of hydatids in the spleen. A pain has been remarked to be felt, in such cases, in the left hypochon-

drium; but this also belongs to many other complaints. When a swelling begins in the situation of the spleen, and spreads very slowly into the cavity of the abdomen, being soft to the feeling, and perhaps giving some obscure sense of fluctuation, the disease may then be reasonably supposed to depend on the formation of hydatids in this organ.

CHAP. XII.

DISEASED APPEARANCES OF THE PANCREAS.

SYMPTOMSCONNECTED WITH THE DISEASED
APPEARANCES.

I have only had one opportunity of seeing an abscess in the pancreas. It was in a young man a little beyond the age of twenty. He did not complain of any fixed pain in the situation of the pancreas, but had a good deal of pain in different parts of the abdomen. This seemed to be connected with spasmodic contractions of the intestinal canal, which inclosed balls of wind, and also with spasms of the abdominal muscles. There was sickness and distension of the stomach, more especially after eating, and the food likewise some-

times occasioned a sense of weight in that organ. He had a disposition to purging ; made but little water ; and became at length dropsical. His pulse was commonly about eighty.* In some cases which are related in books, I find that patients with abscesses in the pancreas have commonly complained of pain in the back and loins, but they seem to have had no peculiar symptoms.

When the pancreas becomes harder than in its healthy state, it is often, I believe, not attended with any painful sensations to the patient which are strongly marked. But it sometimes happens, although rarely, that the pancreas becomes much enlarged in its size, as well as hard in its structure, undergoing these changes which belong to schirrus. In such cases, a long continued pain has been remarked to exist in the epigastric

* For the account of the symptoms in the above case, I am indebted to Dr. Wm. Heberden.

region, and the stomach has been affected with sickness. In one instance, of which I have heard an account, besides the symptoms already mentioned, there was a pain in the hips, and a sense of numbness in one thigh and leg.

I am not acquainted with the symptoms which are produced by the formation of calculi in the pancreas. If the calculi should happen to be smooth, and few in number, they would probably occasion little pain or inconvenience. But if they should be rough upon their surface, and numerous, they would probably produce a good deal of irritation and pain in the pancreas; but it is not likely that we should be able to guess at the cause of the irritation, unless some of the calculi, having passed into the duodenum, should be evacuated by vomiting, or by stool.

CHAP. XIII.

DISEASED APPEARANCES OF THE KIDNEYS,
AND THE RENAL CAPSULES.*Scrofulous Tubercles in the Kidneys.*

IT is not unusual (as we have stated above) for scrofulous abscesses to take place in the kidneys, but it occurs very rarely that scrofulous tubercles are formed in them. I have seen, however, an instance of this kind, and the tubercles resembled most exactly the common tubercles of the lungs. None of them were in a state of suppuration.

State of the Kidneys in Diabetes.

Opportunities do not frequently occur of examining the state of the kidneys in diabetes. I have once, however, been able to make this examination in a satisfactory manner, where a person had been long affected with diabetes, and had been a pa-

tient under my care at St. George's Hospital. In both kidneys the superficial veins were much fuller of blood than usual, forming upon their surface a most beautiful network of vessels, the larger branches of which exhibited an arborescent appearance. The whole substance of the kidneys was much more vascular than in a healthy state, approaching a good deal in appearance to what takes place in inflammation. In both of them there was a very small quantity of a whitish fluid, somewhat resembling pus, which was squeezed out through one or two infundibula; but there was no appearance of ulceration whatever. The artery, the vein, the lymphatic vessels, and the nerves of both kidneys were in their natural state. The liver, at the same time, I examined with care, because it has been thought by some to be the chief source of disease in diabetic patients, but it was perfectly sound. The stomach and intestines were also examined with attention, but no appearances occurred in them which are

not very common. From the state of the kidneys upon examination, it seemed to me probable that diabetes depends, in a considerable degree, upon a deranged action of the secretory structure of the kidneys, by which the blood there is disposed to new combinations. The effect of these combinations is the production of a saccharine matter. I think it probable, at the same time, that the chyle may be so imperfectly formed, as to make the blood be more readily changed into a saccharine substance, by the action of the kidneys. This opinion, however, is proposed with much diffidence.

Hydatids of the Kidneys.

The formation of hydatids is not an uncommon disease in the kidneys. There are sometimes one or two considerable hydatids on the surface of the kidney, lying between its substance and capsule ; at other times, they are much more numerous. These hydatids do not appear to be of the same nature with the hydatids of the liver :

they are not inclosed in firm cysts : their coats are also thinner, and less pulpy, and not uncommonly they are almost as thin as any membrane of the body. I do not recollect to have seen any instance of small hydatids of this sort attached to the coats of larger hydatids of the kidney, as may be frequently observed in the liver. It is therefore probable, that the hydatids which are commonly found in the kidney, depend on a diseased alteration of the structure of this organ, and are not distinct organized simple animals.

Sometimes, however, the true hydatid is formed in the kidneys, having exactly the same nature with that which grows in the liver. It has occurred to me to be able to examine particularly a case of this kind after death, and I shall describe at some length what came under my observation. The right kidney, in a soldier, was converted into a bag capable of containing at least three pints of fluid, and only a very small part of the kidney at the lower end

retained its natural structure. The bag was of considerable thickness, was obscurely laminated, and had a cartilaginous hardness upon its inner surface. It was full of hydatids, which differed very much from each other in their size, some of them being as large as a small orange, and others not larger than the head of a pin. Some of the small hydatids were lodged in little cavities formed in the inner surface of the bag. Their coats were in general easily separable into two laminæ, and varied a good deal in thickness in different hydatids. This difference made one hydatid look opaque, while another was transparent. Even in the same hydatid there was often a difference in the opacity, or transparency of its coat at different parts. Some hydatids had, adhering to their inner surface, a cluster of small hydatids, which looked like small pearls; others had hydatids even of a considerable size floating loose in their cavity; and others contained only a fluid. The fluid in many was transparent, but in

some hydatids it resembled whey. Some of the small hydatids had frequently been passed along with the urine, when the person was alive. It required an increased exertion of the muscular power of the bladder to drive them through the urethra, and the bladder, by this exertion, acquired a stronger muscular coat, as in other cases of obstruction to the free passage of the urine.*

Renal Capsule scrofulous.

It has occurred to me, to see only one instance of scrofula in the renal capsules. In this case, the renal capsule affected by it was very much enlarged in its size, being nearly as large as a kidney, and was changed into the same kind of white matter which is so often observable in a scrofulous absorbent gland.

* Mr. Rose, a diligent young surgeon, both gave me an opportunity of examining this morbid change in the kidneys, and the diseased parts themselves. To him I have been obliged for several valuable morbid preparations.

The renal capsules have also been observed to be changed into a cartilaginous substance, but this morbid appearance occurs very rarely.*

Little granules of stone have been found in the substance of the renal capsules.†

SYMPTOMS

CONNECTED WITH THE DISEASED

APPEARANCES.

When the kidneys are inflamed, more or less pain is felt in the situation of these glands, and the pain often shoots along the course of the ureters. There is a sense of numbness in the thigh, and in the male there is often a retraction of the testicle, or a feeling of pain in it. When one kidney is affected, these symptoms are only felt upon that side. The urine is voided

* See Soemmerring's Germ. transl. p. 173.

† Vid. Lieutaud, Tom. I. p. 286.

frequently, and is sometimes of a pale, but more commonly of a deep red colour. The stomach sympathizes with this state of the kidneys, for it is affected with sickness and vomiting : the bowels are often costive, and subject to colicky pains ; and there is more or less of symptomatic fever.

When pus is formed by the progress of the inflammation, it may be known by its being mixed with the urine, and this will be more distinctly marked, in proportion to the quantity of the pus.

The symptoms which belong to a schirrous state of the kidneys are unknown to me, and I do not find that they are distinctly marked by authors.

There would seem to be no particular symptoms which belong to the formation of hydatids in the kidneys. Pain is com-

monly felt in the loins during their formation ; there has been remarked to be symptomatic fever, nausea, and vomiting ; but these symptoms belong to some other diseases. This disease, therefore, can only be ascertained by hydatids passing occasionally through the urethra along with the urine. In such cases, there must sometimes be a difficulty in making water, from a hydatid interrupting the passage of the urine, either at the neck of the bladder, or in some part of the urethra.

The symptoms which are produced by calculi irritating the kidneys correspond very much with the symptoms attending the inflammation of these organs. The irritation from calculi, however, may be distinguished from simple inflammation of the kidneys, by these additional symptoms, viz. by red crystals being often deposited from the urine as soon as it is voided, by blood being sometimes mixed with the

urine, and by the pain of the loins being much increased upon any jolting motion of the body.

Diabetes is distinguished by the urine being much increased beyond the natural quantity, by its being more or less sweet to the taste, and of a colour somewhat resembling whey. There is great thirst, and a voracious appetite for food. The pulse is also somewhat quicker than natural, and the body becomes at length much emaciated.

CHAP. XIV.

DISEASED APPEARANCES OF THE BLADDER.

Polypus of the Bladder.

A POLYPUS sometimes grows from the inner surface of the bladder; but this morbid appearance occurs very rarely. I have only seen one example of it, and in this instance it filled up the greater part of the cavity of the bladder. It was very irregular in its shape, consisting of various projecting masses, and seemed pretty firm in its texture.

Cysts communicating with the Bladder.

Cysts are sometimes found connected very intimately with the bladder, and communicating with its cavity. These in some instances have been observed to be of a large size, being perhaps half as large as the usual size of the bladder itself. There seems to

be some difficulty in explaining the manner in which they are formed. If we suppose them to be formed in the cellular membrane, upon the outside of the bladder, it is extremely difficult to explain how they should communicate with its cavity, unless by ulceration, which does not seem to take place. If we suppose them to be pouches from the bladder itself, it is still difficult, in some instances, to explain why they should be formed at all, and why they should arrive at so large a size. The last supposition, however, seems to be the most reasonable, and I am persuaded it will apply to the greater number of cases where such cysts exist.

The Bladder divided into two Chambers.

The urinary bladder has sometimes been observed to be divided into two chambers, which communicate with each other; but this has happened very rarely. I have not had an opportunity myself of examining this singular disease, but I have received an

account of such a case from Dr. Ash, which had many years ago fallen under his observation. The upper chamber of the bladder in this case was generally much distended with urine, so that a round tumour could be easily distinguished by the touch above the pubes. When a catheter was introduced into the bladder, a few ounces only of urine were emptied, and the tumour above the pubes remained the same as before. When the patient stood up, a quart of water sometimes passed away involuntarily, the tumour very much subsided, and the complaint was relieved for the time. After the death of the patient, the bladder was found upon examination to be divided into two chambers by a firm membranous substance, and the aperture of communication was almost obliterated.

There seem to me to be only two ways in which a division of the bladder into two chambers can happen. The one is by a morbid growth of the inner membrane, forming a ridge at some particular part, and

at length by a continuation of this process, making a septum more or less complete in the bladder. I have seen the cavity of the œsophagus very much narrowed at one part by a permanent ridge being formed in its inner membrane. Something of the same kind I have also seen in a part of the small intestines. We may therefore readily admit the possibility of a similar process taking place in the inner membrane of the bladder.

Another way in which the bladder may be supposed capable of being divided into two chambers, is a very strong contraction of its transverse muscular fibres at some particular part. This will be analogous to the hour-glass contraction of the uterus which is known occasionally to take place. When a complaint of the bladder, depending upon its being divided into two chambers has been temporary, it is reasonable to suppose that it has arisen from the last cause; when it has been permanent, it is more likely to have arisen from the first.

Calculi.

Dr. Wm. Hyde Wollaston has lately made some valuable experiments upon urinary calculi, an account of which is just published in the last volume of the Philosophical Transactions. Besides the kind which has been analyzed by Scheele, and which has been already described, he has ascertained that there are three other kinds of urinary calculi, essentially different from each other in their composition. These three kinds are,

1st. The fusible calculus, which consists of crystals, formed by phosphoric acid, magnesia, and volatile alkali; these are mixed with some phosphorated lime, and generally some lithic acid. This sort of calculus is fusible by the blow-pipe, and is of a white colour.

2d. The mulberry calculus, which consists of the acid of sugar, and the acid of phosphorus united with lime; together generally with some lithic acid in the inter-

stices. This sort of calculus is of a dark colour, and irregularly knotted upon its surface. A smooth polished calculus, the Doctor has found also to contain the same ingredients, except the lithic acid.

3d. The bone-earth calculus, which consists entirely of phosphorated lime. It is of a pale brown colour, and its laminæ slightly adhere to each other.

SYMPTOMS

CONNECTED WITH THE DISEASED

APPEARANCES.

In inflammation of the bladder, a pain is felt in the perinæum, or above the pubes, accompanied with a fulness or a swelling there. There are frequent attempts to make water, which is evacuated in small quantity and with great pain, or there is a total retention of the urine, with a strong desire to void it. The rectum is affected from its connection with the bladder, and

is excited to tenesmus. The stomach likewise takes a part in the disease, being affected with sickness and vomiting. In some cases there is delirium. When pus has been formed in consequence of the inflammation, it is known by being mixed with the urine which is evacuated.

When the bladder has become affected by an ulcer spreading to it from the neighbouring parts, it may be suspected by the pain and difficulty which occur in making water. When the ulcer has made a further progress, and a communication has thereby taken place between the bladder and the uterus, or between the bladder and the vagina, or between the bladder and the rectum, it may be distinguished by the urine passing either through the vagina or the anus, attended with pain and irritation.

When two chambers are just beginning to be formed in the bladder, very little inconvenience is probably felt, because the communication between them at this time is very large. Under such circumstances it seems hardly possible to detect the nature of the disease in the living body; but when the disease has made a considerable progress, and the communication between the two chambers has become very narrow, it may be ascertained, or at least conjectured about with great probability, from the following circumstances. There will then be a considerable circumscribed tumour above the pubes in the situation of the bladder when, distended, much less urine will be made than the natural quantity, and the tumour will not be sensibly lessened by it; or if a catheter be introduced, little urine will be evacuated, and the tumour above the pubes will still remain the same. But it will occasionally happen, by some particular attitude of the body, that the urine will pass from the

upper chamber of the bladder into the lower, and from this it will be evacuated by the urethra; under such circumstances there will be a much larger quantity of urine made than usual, the tumour above the pubes will disappear, and the patient will receive immediate relief, which will continue till there is another accumulation of urine.

There are no symptoms which particularly distinguish the existence of fungous excrescences in the bladder. They produce difficulty in making water, which will be greater according as the excrescence is large, or as it is situated near the neck of the bladder. It will be necessary, therefore, for the muscular coat of the bladder, to make stronger efforts than usual to expel the urine, and this will increase its thickness. When the excrescence is very near the neck of the bladder, the disease may be ascertained by the introduction of a sound into

the urethra. The extremity of the sound will come in contact with the excrescence, and will give the sensation of its pressing against a soft tumour. It may be said, that this case will with difficulty be distinguished by such an examination, from an enlargement of the prostate gland. By examining, however, into the state of the prostate gland in the usual way through the rectum, the one case may be sufficiently distinguished from the other.

The symptoms which belong to a polypus formed in the bladder, are unknown to me; but they are probably much the same with those which attend fungous excrescences in the bladder, as above described.

The symptoms which attend calculi in the bladder are well known. There is an uneasy sensation at the orifice of the urethra after making water, or after exercise.

When the calculus is large, a dull pain is generally felt at the neck of the bladder. The attempts to make water are frequent, and it often passes drop by drop, or the stream is suddenly interrupted. The urine deposits a large proportion of a mucous sediment, which is produced by the mucous glands at the neck of the bladder being irritated by the calculus to an increased secretion. The urine is also occasionally tinged with blood, from some small blood vessel being ruptured by a rough part of the stone, and this is most apt to happen after some jolting motion. There is tenesmus, in consequence of the connection of the rectum with the bladder, and the sympathy which has been established between their respective functions.

CHAP. XV.

DISEASED APPEARANCES OF THE VESICULÆ
SEMINALES.

SYMPTOMSCONNECTED WITH THE DISEASED APPEAR-
ANCES NOT ASCERTAINED.

The symptoms which attend diseases of the vesiculæ seminales, have not been attempted to be discriminated by authors, and must, from circumstances, be very difficult to ascertain. It has only occurred to myself to observe some diseased changes of them in the dead body ; and I have had no opportunity of tracing the symptoms which accompany these changes during life.

CHAP. XVI.

DISEASED APPEARANCES OF THE PROSTATE
GLAND.

SYMPTOMSCONNECTED WITH THE DISEASED
APPEARANCES.

The symptoms which attend inflammation of the prostate gland, have been little noticed by authors. It is reasonable to think, that there will be a sense of pain more or less acute at the neck of the bladder, with much difficulty in making water, and probably tenesmus. This disease may be distinguished from a schirrous enlargement of the prostate gland, from its quick progress, and from the pain which is felt in it.

When the prostate gland is affected with scrofula, little inconvenience is probably felt in an early state of the complaint; but if the gland should increase very considerably in its size, those symptoms must necessarily arise, which depend upon its enlargement, and which are just about to be explained.

When the prostate gland becomes enlarged from schirrus, there is a difficulty in voiding the urine, and a small quantity only is discharged at a time, so that the bladder is kept always nearly full. There is sometimes a total inability to evacuate the urine. The fæces are also passed with difficulty, and when the operation is over, there is still a feeling of something more to be discharged. The straining which attends the evacuation of the urine and the fæces not unfrequently forces out some mucus, which had been secreted by this gland. A bougie or catheter are either passed into the blad-

der with difficulty, or on some occasions are not capable of being passed at all.

Calculi occur so rarely in the prostate gland, that their symptoms have been but little noticed by authors. When the calculi are very small, so as to be confined entirely within the ducts of the prostate gland, it is probable that little inconvenience is produced by them. When they are large, and form a projection into the cavity of the prostate gland, there must necessarily be difficulty in voiding the urine, and there will be the same feeling when a sound or catheter is attempted to be passed into the bladder, as if an urinary calculus had got fixed or impacted in the neck of the bladder.

CHAP. XVII.

DISEASED APPEARANCES OF THE URETHRA.

SYMPTOMSCONNECTED WITH THE DISEASED
APPEARANCES.

The symptoms which attend the inflammation of the inner membrane of the urethra, are too well known to require being mentioned.

In stricture of the urethra there is difficulty in making water, which is more or less according to the degree of the stricture; the stream of urine is small, sometimes forked, sometimes scattered, and sometimes the urine passes away in drops only. There is also an increased secretion

of mucus from the urethra, resembling a gleet. Various other symptoms may take place, in consequence of the parts in the neighbourhood of the stricture being affected ; and even the constitution is sometimes much disturbed by this local irritation, exhibiting very different symptoms in different individuals.

When the urethra is obstructed by the growth of a caruncle, no symptoms are known by which it may be distinguished from a case of common stricture.

CHAP. XVIII.

DISEASED APPEARANCES OF THE TESTICLES,
AND THE SPERMATIC CHORD.*Loose Cartilages in the Tunica Vaginalis
Testis.*

SMALL cartilages are sometimes found loose in the cavity of the tunica vaginalis testis, as in some of the joints in the body, more especially the knee joint. They do not however occur in the former so frequently as in the latter. They must once have been attached to some part of the inner surface of the tunica vaginalis testis by very small processes or peduncles, and by the motion of this tunic upon the testicle they must have been separated. They afterwards continue to lie loose in the cavity of the tunica vaginalis testis, and are, I believe, attended with no inconvenience. An example of this kind has been seen by my-

self, and it has not unfrequently been observed by others.

SYMPTOMS

CONNECTED WITH THE DISEASED
APPEARANCES.

The existence of hydrocele in the living body, may be determined by the shape of the tumour, which is in some degree pyramidal, by the resistance which it gives upon pressure, by the want of pain in it, and by the health being not affected by it. Where the tunica vaginalis is thin, and the swelling is viewed between the eye and a lighted candle, it will appear transparent. Where the tunica vaginalis, however, is thick, the transparency will be lost, and the tumour to the feeling will be harder, and less compressible. But still it will not have the same degree of hardness as a schirrous testicle, and will want some other

characteristic marks which belong to the latter disease.

The formation of hydatids in the tunica vaginalis testis, is attended with symptoms which correspond very much with those of hydrocele; and this case can only be distinctly known by laying open the sack.

An inflamed testicle may be distinguished from a schirrous one in the living body, by a slight attention to the appearances, and to the history of the case. The progress of the disease, in an inflamed testicle, is commonly rapid, and the skin of the scrotum immediately covering it, has usually a blush of inflammation; but in a schirrous testicle, the progress of the disease is slow, and the skin of the scrotum retains its natural colour, unless it be really affected by the disease. The surface of the tumour in an inflamed testicle is uniform and smooth,

but in a schirrous testicle, is often irregular.

When a testicle is scrofulous or pulpy, it may be distinguished from a schirrous testicle by its greater softness, by the little pain which is felt in it, and by the health being usually pretty good.

A schirrous testicle may be ascertained in the living body, by its great hardness, and by the pain that is often felt in it, which darts along the spermatic chord to the loins. Its progress is commonly slow, the spermatic chord becomes ultimately diseased, and the general health at length much impaired. When it throws out a fungus, or forms an ill-conditioned ulcer, these become additional external marks of the nature of the disease.

The encysted tumour of the spermatic chord containing water, resembles, in some appearances, hydrocele. It may, however, be distinguished from it by the testicle being felt separate and entire under the tumour, which in hydrocele is never the case.

CHAP. XIX.

DISEASED APPEARANCES IN THE FEMALE
ORGANS.*Malignant Ulcer of the Uterus.*

IT is not unusual for an ulcer to be formed in the uterus, of a very malignant nature. This is most apt to happen in women at the middle period of life, or a more advanced age; but it sometimes happens in women who may still be said to be young. The ulcer generally begins in the cervix uteri, and the uterus is at the same time somewhat harder and larger than in the natural state. It does not, however, grow to any considerable size. The ulcer spreads from the cervix to the fundus uteri, and it is not unusual to see the greater part of the fundus destroyed by it, the rest being changed into a tattered ulcerated mass. The ulceration is not always confined in its

boundaries to the uterus, but sometimes spreads into the neighbouring parts, as the vagina, the bladder, and the rectum, making communications between them, and producing dreadful havoc. This disease of the uterus is generally considered as cancer, but it differs in some of its appearances from what is acknowledged to be the true cancer in other parts of the body.*

Schirrous Enlargement of the Uterus.

It sometimes happens, although not very often, that the uterus enlarges in its size, and becomes much harder than in its natural state. This change corresponds very much to that of schirrus in other parts of the body, and commonly extends over the whole of the uterus. It is difficult to say

* This diseased change I formerly confounded with the schirrous enlargement of the uterus, considering them as varieties of the same disease, and therefore blending their description together ; but in consequence of the accurate observations of Dr. Adams, in his Essay upon Morbid Poisons, I have thought it proper to separate them.

to what size the uterus may at length arrive, in the progress of this disease, but I have seen it, in one case, as large as the gravid uterus at the sixth month. If a transverse section be made of the uterus in this state, it is found to consist of a hard substance, having a brownish, or a brownish-white colour, and intersected by pretty thick membranes. Ulceration is sometimes discovered upon its inner surface, but I believe it is often wanting. Tubercles are occasionally formed in this state of the uterus, being, as it were, imbedded in its substance, and they have a structure very much resembling that of the uterus itself.

SYMPTOMS

CONNECTED WITH THE DISEASED

APPEARANCES.

In inflammation of the uterus, there is a sense of pain and tension in the hypogastric region, and the pain is increased

upon pressure there, or upon touching the os uteri. The stomach is affected with vomiting, and the bowels are sometimes costive, and sometimes disposed to looseness. The whole constitution is roused into action, and exhibits those symptoms which have been called fever, the pulse having commonly a great degree of frequency. When the peritonæum is inflamed over the general surface of the abdomen, or to a considerable extent, there is a swelling of that cavity, with pain and extreme tenderness upon pressure, and the general affection of the system is increased.

In ulcer of the uterus, there is pain in the part affected, which often arises to an exquisite degree, and is accompanied with a discharge of offensive pus and blood. If a communication shall have taken place between the urinary bladder and the vagina, by the spreading of the ulcer, the urine passes off by the vagina, and increases

the pain. The pulse is small and frequent, the countenance is often sallow, and towards the end of the disease, there is great emaciation. When the ulcer has spread far into the vagina, the glands of the groin are often affected by the absorption of the pus.

In the schirrous enlargement of the uterus, there are few symptoms to characterize it till the disease has made considerable progress. There is pain in the hypogastric region, which is more or less acute in different cases; but this is common to it with several other diseases. When the disease, however, has made a good deal of advancement, it may be ascertained by an examination per vaginam. The os tinæ will then feel enlarged and hard, and there will be an unusual sense of weight against the finger from the increased size of the uterus. A tumour may at the same time be distinctly felt above the pubes. This state of

the uterus may be distinguished from pregnancy by the history of the case, and by many circumstances being wanting which attend pregnancy. If there be an ulcer combined with this schirrous enlargement of the uterus, there will be an occasional discharge of pus and blood per vaginam.

When tubercles are formed in the uterus, and the uterus remains of its natural size, there are, I believe, no symptoms which particularly characterize this disease. But when the uterus is at the same time much enlarged, the symptoms are the same with those which belong to the common state of a schirrous uterus, as above described.

The symptoms which attend a polypus of the uterus, are mucous and occasional bloody discharges by the vagina, with frequent pains in the loins. When it has made considerable progress in its growth,

it may be ascertained by an examination per vaginam. Even without this examination, it may be distinguished from an ulcer of the uterus, by attention to the history of its progress, and by the general health being much less affected in this case than when an ulcer has been formed. The glands of the groin are, I believe, never affected from a polypus, but are often tainted by absorption, when an ulcer of the uterus has spread pretty far into the vagina.

When there is a part of the fundus uteri inverted, forming a tumour in the cavity of the uterus, there are no symptoms by which it can be sufficiently distinguished in the living body. It is attended with a profuse hæmorrhage, and if the patient should survive, the menstrual flux is in very large quantity, together with very copious mucous discharges in the intermediate times. When the inversion is complete, it can be ascertained by an examination of the

tumour, but is not distinguished by any peculiar symptoms. The attempts which are made to return the uterus to its natural situation, have almost always been unsuccessful.

Prolapsus uteri can always be ascertained by an examination, and the exact circumstances attending this case cannot be ascertained without it.

There are no symptoms by which dropsy of the uterus can be fully distinguished from some other conditions of this organ, and therefore it is only clearly known in consequence of the evacuation of the water.

The existence of hydatids in the uterus is not distinguished by any characteristic symptoms, and is only known in consequence of their expulsion, by the contractile

power of this viscus. This effect generally takes place, and is attended with pains resembling very much the pains of labour.

A rupture of the uterus can only be fully ascertained by an examination. It is attended with pain, with a sense of something having given way in the belly, and with almost an immediate vomiting of a chocolate-coloured matter. The uterus gives up its natural efforts for the expulsion of the child, so that the labour pains cease; the child is retracted, and generally escapes, either wholly or in part, into the cavity of the abdomen.

CHAP. XX.

DISEASED APPEARANCES OF THE OVARIA.

SYMPTOMS

CONNECTED WITH THE DISEASED

APPEARANCES.

As the ovaria are very seldom inflamed, unless when inflammation has at the same time attacked the uterus; it is not known whether there be any particular symptoms which characterize inflammation of the ovaria. Inflammation of the ovaria cannot at present be distinguished, by its symptoms, from inflammation of the uterus.

A schirrous state of the ovaria, is with difficulty determined in the living body.

When a schirrous ovarium has increased to a large size, and lies upon the side of the pelvis, and the person is at the same time of a spare habit, it may in some measure be ascertained by an accurate examination of the tumour through the parietes of the abdomen. It will feel much harder than where an ovarium is enlarged by dropsy, or filled with hydatids. When the ovarium is not capable of being accurately examined, the opinion about the existence of this disease must rest much more upon probable evidence than upon any clear proof.

Dropsy of the ovarium cannot be ascertained in a very early stage of this disease. But when it has made considerable progress, so as to have formed a swelling at the lower part of the belly, it may commonly be ascertained by an accurate examination, and attention to the history of its growth. The tumour is generally on one side of the abdomen more than the

other, according as the right or left ovary is affected. There is often an inequality in the surface of the swelling, and an obscure kind of fluctuation is felt upon striking with the hand the parietes of the abdomen, which cover the swelling. The health is commonly very little affected by this disease, and it is slow in its progress, so that life will often be continued with tolerable comfort under it for many years. The quantity of the urine is often but little diminished below what is usual in health, and the absorbents of the ovary are hardly capable of being excited to a vigorous action by medicine. There have been few instances, therefore, of a dropsy of the ovary being cured.

CHAP. XXI.

DISEASED APPEARANCES OF THE FALLOPIAN
TUBES.

SYMPTOMSCONNECTED WITH THE DISEASED
APPEARANCES.

The symptoms which attend the different morbid changes of the Fallopian tubes are at present not known; and they must, from the circumstances belonging to them, be very difficult to ascertain.

CHAP. XXII.

DISEASED APPEARANCES OF THE VAGINA.

An Hermaphrodite in the Human Species.

EXAMPLES of what have been called hermaphrodites in the human species have, when strictly examined, been hitherto found to belong to the male or the female sex ; but Dr. Storer of Nottingham has favoured me with an account of a person so strongly marked as an hermaphrodite, that no doubt can, I think, be reasonably entertained of this being the case. The person to whom this singular monstrosity belongs, is still alive, and has been carefully examined by Dr. Storer and other medical gentlemen, very able to judge concerning it ; I shall therefore take the liberty of inserting here, the account which Dr. Storer was so obliging as to send me.

The person bears a woman's name, and

wears the apparel of a woman. She has a remarkably masculine look, with plain features, but no beard. She had never menstruated; and on this account she was desired by the lady with whom she lived as servant, to become an out patient at the Nottingham Hospital. At this time she was twenty-four years of age, and had not been sensible of any bad health, but only came to the hospital in order to comply with the wishes of her mistress. Various medicines were tried without effect, which led to the suspicion of the hymen being imperforated, and the menstrual blood having accumulated behind it. She was, therefore, examined by Mr. Wright, one of the surgeons to the hospital, and by Dr. Storer.

The vagina was found to terminate in a cul-de-sac, two inches from the external surface of the labia. The head of the clitoris, and the external orifice of the meatus urinæ, appeared as in the natural structure of a female, but there were no nymphæ. The labia were more pendulous than usual, and

contained each of them a body resembling a testicle of a moderate size, with its chord. The mammæ resembled those of a woman. The person had no desire or partiality whatever for either sex.

SYMPTOMS

CONNECTED WITH THE DISEASED
APPEARANCES.

The symptoms which attend inflammation of the inner membrane of the vagina, and the labia, are too well known to require any description.

An adhesion of the sides of the vagina can only be distinctly known by an examination. It may, however, be strongly suspected where there has been a previous violent inflammation of the vagina, and since that period there has been no menstrual discharge, together with an unfitness

for the usual intercourse between the sexes. When the adhesion has extended over a considerable part of the vagina, it is hardly possible by an operation to separate the adhering surfaces, and to restore the original canal. I have known attempts of this kind to fail in the most skilful hands; and it requires much nicety of management to avoid making an opening into the bladder or the rectum. Where the extent of the adhesion is small, it is very capable of being remedied by an operation, except perhaps very near the internal extremity of the vagina. As it is impossible, when the adhesion is complete, to know, *a priori*, whether it be of large or of small extent, it is almost always proper to attempt an operation; but this should only be done by a surgeon who is very dexterous in the management of the knife, and with extreme caution. When there is merely a narrow line of adhesion, this may probably be discovered by the accumulation of the menstrual blood behind it; and it is possible that this accu-

mulation may at length break through the adhesion, and render an operation unnecessary. It would be absurd however to put off an operation, which under such circumstances must be very slight, for the very uncertain chance of this effect taking place.

Ulcers in the vagina can only be determined with accuracy by an examination of that passage in the living body. They are attended with more or less pain, and with a discharge of pus; but both of these symptoms belong also to inflammation of the vagina, without any ulceration whatever.

An inversion of the vagina is attended with a sense of bearing down (as patients commonly express it), and a tumour passes outwards through the vulva, more especially in an erect posture. The exact cir-

cumstances of the disease can only be ascertained by an examination in the living body.

Tumours growing in the vagina can only be accurately ascertained by an attentive examination.

CHAP. XXIV.

DISEASED APPEARANCES OF THE BRAIN AND
ITS MEMBRANES.*A Part of the Pia Mater bony.*

It occasionally happens, although I believe very seldom, that a portion of the pia mater is converted into bone. It has not occurred to me to observe such a change of structure in this membrane, but Dr. Soemmerring mentions that a specimen of this disease is preserved in his collection.

The Brain very firm.

The brain is sometimes found to be considerably firmer than in a healthy state, to be tougher, and to have a greater degree of elasticity than usual; it will bear to be pulled out with some force, and will readily re-act so as to restore itself, or when pressed will recover its former shape. Under such

circumstances the ventricles are sometimes found enlarged in size, and full of water. The brain has even been said to become so hard and dry as to be friable between the fingers ; and the medullary substance, in these cases, is represented as being much lighter than in a natural state. It is probable, however, that these accounts are a good deal exaggerated. It has been remarked that the cerebellum is very often unaffected.

Bony Tumours pressing upon the Brain.

Bony tumours are sometimes formed in the cranium, which press upon a part of the brain. They most commonly consist of an irregular mass, which is formed of bony processes, with a fleshy substance filling up the interstices between them. Of this sort of tumour there are several examples in Dr. Hunter's collection.

It has sometimes happened, but very rarely, that all the bones of the cranium

have become extremely thickened, and have encroached, by their growth, upon the cavity which contains the brain. Of this there is a remarkable specimen in Mr. Hunter's collection, where the bones of the cranium are at least three times as thick as in the natural state. They are also, in the case to which I allude, much more spongy than usual in their texture.

A nodule of a substance having the appearance of ivory, has also been known to be formed in the bones of the cranium, and to protrude considerably into its cavity. This too occurs very rarely, but a specimen of it is preserved in Mr. Hunter's collection. Whatever may be the variety in the morbid processes, which produce these changes of structure in the bones of the cranium, yet their effects upon the functions of the brain must be nearly the same, as they form a permanent cause of compression.

Bony Ridges irritating the Brain.

Upon the inner surface of the basis of the cranium there is always some irregularity. This consists in numerous ridges and small eminences with depressed surfaces interposed between them. It happens occasionally that there is a morbid growth of these eminences and ridges, forming sharp spicula and sharp edges of bone. These run into the brain, and irritate very violently the nervous system.

Hydrocephalus.

One of the most common appearances of disease in the brain, is the accumulation of water in its ventricles;* this generally takes place when a child is very young, and even

* Mr. Home has known an instance where water was accumulated in large quantity 'in the third ventricle, and had forced its way between the fine laminæ of the medullary substance which compose the septum lucidum, without escaping into either of the lateral ventricles. This may be said to be a new situation of hydrocephalus, and is of very rare occurrence.

sometimes before birth. The water is accumulated in greater or less quantity in different cases. It sometimes amounts only to a few ounces and occasionally to many pints. When the quantity of water is very considerable, the fornix is raised at its anterior extremity in consequence of its accumulation, and an immediate opening of communication is thereby formed between the lateral ventricles.* From this cause too a

* A distinguished author has, in a late publication, insisted very strongly upon the existence of a communication between the two lateral ventricles of the brain, and has expressed great surprise that it has been denied by several teachers of anatomy in London. Without entering into any dispute about this matter, which in itself is of no great importance, I shall briefly mention what appears to me to be the real state of the circumstances. The fornix at its anterior extremity lies loose upon a part of the thalami nervorum opticorum, and there is a small chink on each side of the fornix leading obliquely downwards from the lateral ventricles to the anterior extremity of the third ventricle. While the fornix is allowed to remain in its natural situation, there seems to me to be no immediate communication between the lateral ventricles. But when the fornix is

part of the water passes very readily into the third ventricle, and from thence into the fourth. The water is of a purer colour, and more limpid, than what is found in dropsy of the thorax or abdomen. It appears, however, to be generally of the same nature with the water that is accumulated in both of those large cavities. In some trials which I have made, it partly coagulated upon the application of the common acids, exactly like the water in hydrothorax and ascites, or like the serum of the blood.* But there is much variety in

elevation (which may be very easily done) then the lateral ventricles communicate with each other ; and the communication is more or less according to the degree of the elevation. It may be said, that the lateral ventricles still communicate together by means of the third ventricle. This, however, does not seem to me to be properly a communication between the two lateral ventricles, unless any two cavities which communicate with a third, may be properly said to communicate with each other.

* In one instance lately, I found that the water of hydrocephalus deposited no coagulable matter whatever upon the application of concentrated vitriolic acid.

the quantity of the coagulable matter. In some instances the water in hydrocephalus contains a very small proportion of coagulable matter, and in others it is entirely free from it. This variety may probably depend upon some difference in the action of the small blood-vessels which pour the fluid out.

When water is accumulated in the ventricles to a very large quantity, the substance of the brain, especially upon the sides and at the upper surface, appears almost to be a sort of pulpy bag, containing a fluid. The corpus callosum is at the same time burst, so that a part of the water lies in immediate contact with the dura mater which lines the inside of the upper part of the cranium. The skull too upon such occasions is very much enlarged in size, and altered in its shape. The cranium is exceedingly large in proportion to the size of the face. The projections are very considerable at the centres of ossification, from whence the frontal, parietal, and occipital bones were originally

formed, and the membranous divisions between these several bones are very wide. When the scalp is removed, so as to give an opportunity of looking immediately upon the cranium, the bones are found to be very thin, often not thicker than a shilling, and there are frequently broad spots of membrane in the bone. The reason of this last appearance is, that ossification takes place in many points of the membrane in such cases in order to make a quicker progress, but the water accumulates too rapidly for it, so that spots of membrane are left not converted into bone. When such appearances take place in hydrocephalus, the disease has been of long continuance, occasionally for some years.

Cavities in the Brain containing a serous Fluid.

Cavities containing a serous fluid are sometimes observed in the substance of the brain. They almost constantly occur in the medullary part of the hemispheres, and are generally lined with a tough substance

or membrane. They would appear to be the remains of the cavities formed by extravasated blood, in cases of apoplexy, where the patients have not been cut off immediately, but have lived afterwards for some months or years. The extravasated blood would seem in such cases to be dissolved, and taken up by absorption; but the injury is not repaired, and a cavity remains afterwards filled with a serous fluid.*

Aneurysm of the internal Carotid Arteries on the Side of the Sella Turcica.

The internal carotid arteries are very apt, in persons of an advanced age, to become ossified, and the same morbid change may be traced along their branches. It occurs,

* I had an opportunity of observing, lately, a well marked case of this sort, in a person who had had several attacks of apoplexy, and at length was cut off by one of them. Dr. John Hunter has observed a good many instances of it, and a case occurred some years ago to Mr. Wilson, lecturer on surgery, whose anatomical accuracy is well known, where the cavity which remained was of a very large size.

however, very rarely that they are distended at any part into an aneurysmal sack, like the arteries in some other parts of the body. I have been informed of an instance of this kind, where both the internal carotid arteries, on the side of the sella turcica, were distended into a little aneurysm.* One of these aneurysms was about the size of a cherry, and the other was somewhat smaller. It is remarkable that in the only two instances which have come to my knowledge, of aneurysms being formed in the arteries of the head and brain, there has been an aneurysm in both arteries in the same situation, and at the same time. I once met with an aneurysm in the two carotid arteries at the origin of the internal carotids, and in the case just described, there was an aneurysm in the two internal carotid arteries upon the side of the sella turcica.

* I owe my acquaintance with this case to Dr. Blane.

*Diseased Appearances of the Plexus Choroides.**—Little Bags in the Plexus Choroides.*

The most common diseased appearance of the plexus choroides is that of little round transparent bags, which adhere to it, and which have commonly been called hydatids. These are generally about the size of a garden pea, but sometimes they have been seen as large as a gooseberry. From several examinations which I have made of them, they would seem to be formed by a distension of the vein which runs along the edge of the plexus choroides. I have been able to distend them fully with air, by making an opening into this vein, and inflating air into it through a small blow-pipe.

Round Tumours adhering to the Plexus Choroides.

Tumours sometimes adhere to the plexus choroides. They are small in their size,

are commonly almost globular in their shape, and occur but rarely. They seem to be of the same kind with the round tumours which are sometimes found imbedded in the brain, and I believe are scrofulous.

Diseased Appearances of the Pituitary Gland.

This gland is very little liable to be affected by disease. It has only occurred to me to observe in it one morbid change. It was, in that case, enlarged to twice its natural size, and was converted into a substance, possessing an obscurely fibrous structure.

SYMPTOMS

CONNECTED WITH THE DISEASED

APPEARANCES.

Inflammation of the dura mater is not distinguished by any peculiar symptoms. The symptoms which belong to it, are the same with those which attend inflammation of the other membranes, and even differ but little from the symptoms which take place in inflammation of the brain itself. The symptoms are, pain in the head, delirium, symptomatic fever, and sometimes convulsive motions.

When tumours have been found adhering to the dura mater, or the other membranes of the brain, a long continued pain in the head has commonly been remarked, sometimes delirium, sometimes convulsions, and sometimes, it has been said, the ordinary symptoms of apoplexy.

Where bony matter has been formed in the dura mater, with sharp processes growing from it, convulsive motions have very commonly occurred in various parts of the body, often a continued pain in the head, and sometimes delirium.

In cases where the veins of the pia mater have been found turgid with blood, stupor has very frequently occurred, sometimes delirium, and sometimes, it has been said, even apoplexy in its perfect form.

The symptoms of inflammation in the pia mater, are the same with those which attend inflammation of the dura mater, and they have been already noticed.

In inflammation of the substance of the brain, there is pain in the head, deli-

rium, symptomatic fever, and sometimes coma.

Where an abscess has been formed in the brain ; pain, delirium, and coma, have been remarked, sometimes a paralysis of a part of the body, and sometimes convulsions. The last symptom has been observed most frequently to occur when the abscess has been formed in the tuberculum annulare, or in the medulla oblongata, or in the neighbourhood of these structures, so that the pus could affect them by its pressure.

The brain has sometimes been found more firm and elastic than is natural in cases of mania. I have been informed, however, lately, from the best authority, that this state of brain is not common in maniacs ; and that in them it is generally

not more firm, nor more elastic, than in people whose minds have always been sound.

The symptoms which have been observed to attend the formation of solid, or encysted tumours in the brain, are a permanent uneasiness or pain in the head, sometimes delirium, sometimes convulsions, and sometimes, it has been said, the common symptoms of apoplexy. It is worthy of remark here, that when tumours of any kind press upon the thalami nervorum opti-
corum, or the optic nerves themselves, within the cranium, vision becomes impaired in various ways; and that when tumours press upon the tuberculum annulare, or the medulla oblongata, convulsions are very apt to occur.

The symptoms of hydrocephalus, are a

pain in the head, stupor, convulsive motions, picking of the nose, grinding of the teeth during sleep, occasional flushings of the face, a dilatation of the pupils, and towards the latter end of the disease, squinting. The stomach is commonly affected with sickness, and the bowels are with difficulty acted upon by purgative medicines. In the beginning of this disease, the pulse is frequent but regular; when the disease has made a further progress, it is slower and irregular; and towards the latter end of the disease, it becomes again regular and frequent. Where the progress of the disease has been very gradual, and the patient has continued to live for some months, or even years, the functions of the brain have been found, in many instances, to be less impaired than might have been expected, till near its close.

Where blood has been effused upon any of the membranes of the brain, the patient is more or less in a comatose state, according to the degree of the effusion, or the different susceptibility of the brain in different individuals to be affected by pressure. Innumerable instances shew, that the brain will have its functions impaired in very different degrees, from the same apparent degree of injury.

When blood is effused into the substance of the brain, apoplexy is produced, which is attended with the following symptoms, viz. coma; often stertorous breathing; a paralysis, commonly of one half of the body; and often convulsive motions. The pulse is slow, full, and generally very strong. When the patient is not cut off at once, but lives for some time after the attack, the hemiplegia, which is almost constantly an effect of this disease, is upon the opposite side of the body from that of the brain, in which the effusion of blood has taken place. This

would seem to shew, that the right side of the body derives its nervous influence from the left side of the brain, and the left side of the body its nervous influence from the right side of the brain.*

* Dr. John Hunter has made some very accurate dissections relative to apoplexy, and its consequences, which formed the subject of the Gulstonian lectures, read by him, 1796, before the College of Physicians. By these lectures, I have been enabled to give a more satisfactory account of the appearances connected with this disease, than I should have been otherwise.

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